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Director:

PABLO J. ANDUZE,

Dept. de Entomología. — Instituto de Higiene, Ministerio de Sanidad y Asistencia Social, Caracas, Venezuela, S. A.

Comité de Redacción:

RENE LICHY,
5 Parque Sanabria, Caracas, Venezuela.

ENRIQUE VOGELSANG,
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Dept. de Entomología, Ministerio de Agricultura y Cría, Caracas, Venezuela.

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NEUROPTERA OF NORTHERN SOUTH AMERICA

PART III

by

Nathan Banks

—

CHRYSOPIDAE

The CHRYSOPIDAE (NOTHOCHRYSIDAE) of South America are very numerous in species, and some are very common and widespread. Many were described by Longinos Navas and were it not for the kindness of Professor R. C. Smith of Kansas State College I would not have attempted to tabulate them. On his trip to European Museums Professor Smith kindly made notes on those types he found and has generously given me a copy of these notes and they help materially in many species.

SYNOPSIS OF GENERA

1. Third cubital cell not divided; costal area very broad; no regular series of gradate veinlets, five or six branches of radius beyond subcosta; radials often connected by cross-veins.... *Apochrysinae.*

   Third cubital cell divided in some way; costal area much narrowed at stigmal area; rarely more than three branches to radius beyond subcosta; cross-veins in middle area of wing mostly in two or three series ..... *Chrysopinae* 2

2. Antennae on basal half, at least with the joints plainly broader than long; thorax very broad; in hind wings branches of anal vein often forked ..... *Nadiva.*

   Joints of antennae, except a few near base, are fully as long as broad, usually much longer; in hind wings the branches of anal vein not forked 3

3. Medius of fore wing slopes down to its marginal fork, scarcely, if at all, bent; no dark spot at base of stigma; antennae rarely very long 4

The medius a little before marginal fork usually curves up a little to run into de outer series of gradates, if it does not it is bent at that place and usually with a dark spot at base of stigma; antennae often very long; divisory vein often oblique and straight 6

4. Divisory vein ends on the end of third cubital cell and about parallel to both medius and cubitus..... *Chrysopodes.*

Divisory vein ends on the medius and before end of cell, and is often curved 5

5. Inner series of gradates absent in either hind or both pairs of wings; radius usually has three or more branches to margin beyond end of subcosta; small species, with few cells, and the cubital area broad ..... *Eremochrysa.*

Inner series present with at least one veinlet in both wings. *Chrysopa.*

6. Divisory vein parallel to each side of the third cubital cell; a series of cross-veins connecting some of the radials..... *Cacarulla.*

Divisory vein oblique, no series of cross-veins connecting radials... 7

7. A cross-vein before radial sector, usually but five cubital cross-veins beyond the divisory cell ..... *Berkmansus.*

No cross-vein before radial sector; usually six or more cubitals beyond divisory cell 8

8. With a more or less complete third gradate series between the other two; divisory vein ending on the end of third cubital cell.. *Neula.*

No intermediate gradate series 9

9. Some costal cross-veins above origin of radial sector strongly sinuous; divisory cell more or less of a V; costal area wider than radial; costal stigmal area four times as broad as the subcostal stigmal area ..... *Vieira.*

No such sinuous costals, costal stigmal area usually less broad..... 10

10. Radial sector more strongly curved so that the widest part of the radial area is nearer to the medius than to the radius; costal area usually rather narrow and not as broad as radail area; divisory vein usually ends on the medius plainly before end of cell ..... *Nodita.*

Radial sector less curved so that at the widest part of the radial area it is as near or nearer to radius than to medius; costal area usually broader than the radial area; divisory vein usually ends on the end of the cell 11

11. Stigma with a large black spot extending back to the radial sector; costal stigmal area usually twice as broad as the subcostal stigmal area ..... *Gonzaga.*

Stigmal mark much smaller; costal stigmal area rarely twice as broad as the subcostal stigmal area ..... *Leucochrysa.*

APOCHRYSINAE

In the Apochrysinae there is but one species so far known from Northern South America; two other species are known from the Amazon region, and three from Central America; all are rare and but few specimens in collection.

Loyola croesus Gerst.

One from Caripito, Venezuela 12 July, P. Anduze (Cornell).

In fore wing six bullae behind the radial sector, yellowish, with black or brown on upper edge of four of them, and all with the veins partly dark; beyond the third is a small one about half way to hind margin.

The costal area is very broad, many of the cells are four to five times as long as broad; between subcosta and radium the usual cross-vein toward base, but from about middle of wing there are other cross-veins, about sixteen before the stigma, and others beyond. Stigma a small dark spot above subcosta. Radial sector arises from near base of wing, and mostly two series of cells in radial area. Between radial sector and medius is a dense nework of small cells; the medius and cubitus follow each other closely until last bulla, bending up to follow the outer border of wing; the numerous branches of cubitus form very long cells, those near outer border are forked; between medius and cubitus there are about 35 to 40 cross-veins.

The cubitus has a fork from near base, which ends in three veinlets, extending out about as far as in a normal Chrysopa; it is connected by a very short cross-vein to the first anal which ends simple, and this has a longer cross-vein to the second anal, also simple, the last cross-vein is continued about four times as far to connect with the third anal near tip. In hind wings are two small brown spots over two or three cross-veins. The radials are in one series; except near base the subcosta and radius are almost or quite touching out to stigma; the medius is connected to radial sector near base and appears to rise as a fork from cubitus; as in

fore wing the medius and cubitus run parallel nearly out to tip, but they are somewhat further apart than in fore wing. About 30 cubital cross veins; three short anal veins; the first forked near base and connected twice to cubitus and twice to second anal, the third anal touching second and with two branches below.

The face is very short, and the mouthparts small; antennae very slender, the joints longer than broad; thorax much as in other Chrysopids.

CHRYSOPINAE

In the Chrysopinae the most primitive genus is Nadiva; the venation often irregular, and unlike in opposite wings. Several related forms occur in other parts of South America. They are readily recognized by the very short joints of the antennae.

Nadiva Navas

Nadiva valida Erichs.

Described from British Guiana; one from Wonotobo Falls, Courantyne River, British Guiana (N. A. Weber).

Nadiva egena Navas.

Kartabo, British Guiana, 4 May.

Nadiva balboana Bks.

Akuriman (E. Bolívar), Venezuela, Oct. (Anduze); occurs also in Panama.

The three species can be separated as follows:

1. Palpi partly black; basal joint of antennae with a reddish stripe above; radial sector, gradates, and many cross veins black.. *egena.*
   Palpi pale 2
2. Gradates pale greenish as is almost the entire venation.... *balboana.*
   Gradates black, inner row extended basally..... *valida.*

CHRYSOPA LEACH

1. Antennae beyond second joint plainly black or brown for some distance 2

Antennae pale, at most with some dark dots toward base..... 7

2. Palpi marked with black; rarely more than eight radial cross-veins 3

Palpi pale 4

3. Dark line below eye and down on clypeus two dark spots on vertex, dark line each side on pronotum; in male the base of divisory cell and bases of radial sector and cubitus swollen..... *bolivari.*

No dark mark below eye, no dark on vertex, red stripe each side on pronotum; no thickened veins in male..... *pullata.*

4. The inner gradates diverge from outer and extend toward stigma; basal joint of antenna unmarked..... *caucana.*

The gradates in parallel series and near each other..... 5

5. The basal antennal joint with a dark or reddish spot or stripe above ..... *silvana.*

The basal antennal joint unmarked..... 6

6. Pronotum unmarked ..... *everes.*

Pronotum with red border ..... *claveri.*

7. Some of the cross-veins or gradates bordered with brown or yellowish 8

Cross-veins and gradates not bordered..... 12

8. Both series of gradates black and bordered with dark; pronotum with red each side 9

Gradates not dark, or not bordered with dark..... 10

9. Rows of gradates parallel and near each other, palpi lined with dark, no veins bordered with yellowish; wings rather slender. *cymantis.*

Rows of gradates not parallel and widely separated; palpi pale, some cross-veins bordered with yellowish; wings rather broad.. *parishi.*

10. Palpi pale; no mark on basal antennal joint; third cubital cell shorter than usual, and with but one branch to hind margin; veins in both wings bordered ..... *albipalpis.*

Palpi partly dark 11

11. Basal antennal joint with a reddish line; inner gradates irregular; costal area scarcely broader than postcubital area..... *nigripalpis.*

No line on basal antennal joint; costal area toward base much broader than postcubital area 31

12. More than six cubital cross-veins beyond the divisory cell, at least in one wing 13

But six cubital cross-veins beyond divisory cell..... 14

13. Inner gradates extend basally, marginal forks dark, outer gradates about as near inner row as to the margin..... *laeva.*

Inner gradates not so far basally, marginal forks pale, outer gradates plainly nearer to margin than to inner series..... *poujadei.*

14. A dull grayish mark in fork of anal vein below third cubital cell; four reddish spots at corners of the pronotum..... *angulata.*

Not as above 15

15. Four large reddish spots on pronotum, not close to margins..... 16

If there is reddish on pronotum it is near the side margin..... 17

16. A dark dot between antennae, no red line each side on vertex but a reddish spot behind ..... *scalaris.*

No dot between antennae, a red line each side on vertex close to eye; palpi lined with dark ..... *uribei.*

17. Divisory vein ends before cross-vein above; no reddish on pronotum. 18
Divisory vein ends at or beyond cross-vein above..... 19

18. Gradates and some cross-veins dark, palpi with dark..... *azoralis.*

Gradates and cross-veins wholly pale ..... *lanata.*

19. No dark or reddish spot below eyes on cheeks, inner gradates often few, sometimes but three 20

A dark or reddish spot or line below eyes, inner gradates usually five or more 25

20. Palpi pale 21

Palpi dark in part 23

21. No stripe on basal antennal joint, pronotum sometimes with reddish border; inner gradates often reduced to two or three. *reducta.*

One or two stripes on basal antennal joint above..... 22

22. Two stripes on basal antennal joint; pronotum with stripe on side; gradates parallel ..... *arioles.*
But one stripe on basal antennal joint; inner gradates five or six, outer eight or nine ..... *iona.*

23. No line on basal antennal joint nor red stripe on pronotum; usually two branches from third cubital cell to margin; gradates nearly parallel 30

A line on basal antennal joint or else a red stripe on pronotum; often but one branch from third cubital cell to margin and two from fourth 24

24. Basal joint of antennae longer, with a reddish stripe or mark; on side of pronotum, often with stripe reaching to hind margin.. *albatala.*

Basal joint of antennae shorter, without stripe, but a stripe on side of pronotum, reaching only half way to hind margin.... *breviata.*

25. Face with an oblique line or a crescent each side below antenna.... 26

Face without such mark 27

26. A bar across lower face; veins wholly green..... *rufolinea.*
Black spot under each eye; costals and radials wholly dark; other cross-veins more or less dark ..... *hesperina.*

27. Vertex with a dark stripe each side near middle; a brown spot on basal antennal joint above ..... *nesotala.*

No such marks on vertex 28

28. Two black submedian spots on front part of pronotum, dots behind these and on vertex; second joint of antennae dark..... *conspersa.*

No such spots on pronotum, palpi partly black 29

29. Gradates black and faintly bordered with dark; side margins of pronotum reddish ..... *cymantis.*

Gradates not bordered with dark; pronotum margined with reddish ..... *gasterica.*

30. Costal area toward base scarcely broader than post cubital area.... ..... *alobana.*

Costal area toward base almost twice as broad, as postcubital area.. ..... *concinna.*

31. No red on sides of pronotum, nor line under eyes..... *concinna.*

A red border on sides of pronotum, a red line under each eye connected across clypeus ..... *circumfusa.*

Chrysopa conspersa Navas.

Described from "Colombia" (no definite locality). It should be easily recognized by the spots on pronotum.

Chrysopa gasterica Navas.

Described from Muro, Colombia, June and Coachi, Colombia. I have not seen it.

Chrysopa claveri Navas.

Colombia, Caldas 4.400 ft., May (Fassl); Barranquilla, 23 July (G. Salt).

Chrysopa everes Bks.

Trinidad; Nariva swamp, 5 Dec. (Weber).
Venezuela; San Esteban (E. Carabobo), 7 Dec. (Anduze).
Surinam; Paramaribo, 3 March, 13 Dec. (Geijskes).
French Guiana; Nouveau Chantier, March (Le Moult).
Roches de Kourow, July (Le Moult). *C. peterseni* and *C. petersenia* of Navas are synonyms.

Chrysopa bolivari Bks.

Colombia; St. Antonio, 2,000 m. Jan. (Fassl).

Chrysopa caucana Bks.

Colombia; Inmbo, Cauca, 1,000 m. Jan. (Fassl).

Chrysopa pullata sp. nov.

Head pale yellowish, unmarked, no dark under eyes, no dark on vertex; palpi plainly partly black; antennae with dark line above on basal joint, beyond black; pronotum with

a red stripe each side, mesonotum with a dark (or reddish) spot each side over the suture behind anterior lobe; abdomen brown above no black spot; legs and pleura pale; fore wings with nearly all cross-veins brown or black, origin of radial sector and base of divisory cell dark; hind wings, with outer gradates dark and other cross-veins dark at ends. Pronotum fully as broad as long in middle, sides parallel until near front, then suddenly narrowing.

Wings moderately slender, tips almost pointed, with few cross-veins and large cells, hair on veins rather sparse and short; stigmas pale, indistinct. In fore wings the radial area is much broader than the costal area, and a little broader than the postcubital, which is no wider than the cubital; fourteen or fifteen costal cross-veins, eight radials, five intermediates, four other branches of radial sector, two or three inner and four outer gradates, in nearly parallel rows; divisory cell small and slender, ending just beyond the cross-vein above, six cubitals beyond divisory, third cubital cell nearly twice as wide at tip as at base. In hind wing seven radials, one or two inner and three outer gradates, five cubitals. Length of fore wing 8.5 to 9.5 mm., width 2.8 to 3 mm. From San Esteban (E. Carabobo), Venezuela, 1 Dec., 1 Jan. (Anduze). Type M.C.Z. Nº 26.208; paratype with Mr. Anduze. Venation very similar to that of *C. bolivari*, but the divisory cell is hardly half as wide, and there is not thickened veins toward base in the male; the color of palpi and antennae the same as *C. bolivari*, but it lacks the dark streak under eyes, no marks on vertex, and reddish instead of blackish on pronotum.

Chrysopa silvana Navas.

Colombia; Cali, May (Fassl).

Trinidad; St. Augustine, 3 May (Weber).

British Guiana; Bartica, Dec. (Parish); Tumatumari, Potaro Riv., 25 June.

Surinam; Paramaribo, 2 April, Moengo, Boven Cottica, 16 May (Cornell).

Chrysopa cymantis sp. nov.

Head pale yellowish, dark spot below eye, palpi partly black, antennae wholly pale, no spot on vertex by eyes, pronotum reddish on each side near margin, rest of thorax and the abdomen unmarked, except a paler median stripe; legs pale; fore wings with the most of the cross-veins wholly dark, the gradates black and plainly a little bordered; in hind wings some costals and the gradates dark.

Pronotum broader behind than long, somewhat narrowed in front; hind tibiae moderately swollen. Wings rather slender, the tips nearly acute; in fore wings the costal area is fully as broad as the radial area and equal to the post cubital, the latter plainly much broader than the cubital; eleven or twelve radials; six cubitals beyond the divisory cell, latter ends beyond cross-vein; second cubital cell nearly as long as third, much narrowed above at tip; about six gradates in each row, rows nearly parallel, but the first of inner row is rather out of line, inner row much nearer to outer than to radial sector, inner row arises near the penultimate cubital cross-vein; hairs on veins moderately short.

In hind wing about eight or nine radials; two or three inner gradates, three to five outer, rows far apart, the inner much nearer to radial sector, and arises near penultimate cubital cross-vein.

Length of fore wing 11.5 mm., width 3.8 mm.

From Paramaribo, Surinam (K. Mayo); Paramaribo, Combé, 26 April; type in Acad. Nat. Sci., Phila., paratypes in M.C.Z. and Geijskes collection.

This species is similar in many ways to *C. hesperina* Bks., but is smaller, with a more slender fore wing, and at once separated by the lack of the red line each side on face near eye and antenna, which is characteristic of *C. hesperina*, and by the slightly bordered gradates.

Chrysopa circumfusa Burm.

Surinam: Paramaribo, Cultuurtuin, 10 Jan. (Geijskes).

Ch. burmeister Navas is very similar or identical with *circumfusa.*

Chrysopa concinna sp. nov.

In general similar to *circumfusa.*

Head pale green, cheeks reddish, last joint of palpi black; antennae pale; a faint reddish mark on vertex by side of eye; no red on sides of pronotum. Wings with green venation, unmarked with dark, but the inner gradates are broadly bordered with yellowish. Antennae very short, about one-half length of wings, pronotum longer than in *circumfusa,* longer than broad behind, the groove is across middle, surface with long erect hairs.

In the fore wings of the male the radial sector and cubitus are thick as in *circumfusa,* and all veins very hairy; the inner gradates bend the branches of radial sector half-way to next branch. Costal area toward base extremely broad, about twice as broad as post-cubital area; several or nearly all of the branches of cubitus unite at base; five intermediates, five branches of radial sector beyond; four inner gradates, well separated and nearer to radial sector than to outer row; six or seven outer gradates, much nearer margin than to inner gradates; six cubitals beyond divisory cell, latter small, slender, ending a little beyond fork above.

Length of fore wings. 10 mm.

From Akuriman, (E. Bolivar), Venezuela, October (Anduze).

Bogota, Colombia (Dohrn) Hagen coll. Type M.C.Z. Nº 26.635.

Chrysopa albipalpis Bks.

Colombia; St. Antonio, Feb. 1.700 m. (Fassl); Carmen, Nov., 1.600 m. (Fassl); La Cumbre, 6.600 ft. (Fassl).

Chrysopa nigripalpis Bks.

Colombia; St. Antonio, 1.880 ft., Febr. (Fassl).

Chrysopa parishi Bks.

Venezuela; San Esteban, (E. Carabobo), 21 Nov. (Anduze).
Surinam; Moengo, Boven Cottica, 14 May (Cornell).
British Guiana; Bartica, Dec. (Parish).

Chrysopa lanata Bks.

Venezuela; Akuriman, 24 Oct. (Anduze).
Also Mt. Roraima, Brazil*, 7 Nov., 5.200 ft. (Am. M.N.Hist.)

Chrysopa azoralis Bks.

Colombia; La Cumbre 6.600 ft. (Fassl).

Chrysopa angulata Navas.

A male from the northern range of Venezuela, 23 September, (R. Lichy).

This agrees with the Navas description, having the dark spot, almost black, in forking of anal vein. It differs in some points, partly due to preservation, age, or time under cyanide. The head is not suffused with red, but is greenish; there is a red stripe above on the basal joint of antennae (not showing when antennae directed back); there is a small, but distinct black spot or bulla on the basal branch of last anal vein, and also a black spot on each lateral lobe of mesonotum (these may be sexual); and the inner gradates are almost parallel to the outer row; the origin of radial sector is black; there are four red spots on pronotum, hind pair larger as Navas states; there are five inner gradates, eight outer ones in fore wing, three inner, seven outer in hind wing.

Chrysopa breviata Bks.

Colombia; Rio Frio, Magdalena, 11 March (Darlington); Sevilla, 6 Nov., (G. Salt).

Venezuela; San Esteban, (E. Carabobo), 25 Dec. (Anduze).

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* *Nota del Editor:* Posiblemente se trate de la parte de Venezuela en cuyo territorio está casi todo el Roraima y donde se han efectuado casi todas las colecciones en ese sector, principalmente porque es más accesible.

Chrysopa hesperina Bks.

Colombia; Caldas, 4.400 mt., May (Fassl); Cali, 500 m., May, (Fassl).

Venezuela; San Esteban (E. Carabobo), 25 Dec., 10 Febr. (Anduze); El Valle, D. F., 13 Febr. (Berthier).

British Guiana, Kartabo, 24 April (Beebe).

C. laufferi Navas appears to be a synonym of this, but possibly different.

Chrysopa laeva Navas.

Colombia; Monte del Eden, Ibagué, 3.000 m. Dec. (Fassl); Quindini Pass, Volcancito, 3.000 m. Nov. (Fassl).

Chrysopa poujadei Navas.

Colombia; Pacho, Ost Cordillera, 2.200 m. (Fassl); Quindini Pass, Bognia, Sept 2.000 m. (Fassl).

Chrysopa scalaris Navas.

Trinidad; North Range, 1.200 ft. 6 April (Weber).

Chrysopa uribei Navas.

Colombia; Medellín, 24 April, (U.S.N.M.); Villavicencio 450 m. (Fassl).

Venezuela; San Esteban (E. Carabobo), 20 Nov. (Anduze); Los Canales de Naiguatá, 24 Sept. (Berthier).

British Guiana; Kartabo, 20 June (Beebe); Mackenzie, Demerara River, 24 June (Cornell).

Chrysopa iona sp. nov.

Head pale, unmarked, except vertex may be a little darker behind in middle, no mark under eyes; palpi pale; antennae pale, basal joint with a narrow red stripe above, at lip widening into a short band, second joint with dark dot above; pronotum with a narrow reddish stripe each side, near, but not reaching, the margin; thorax, legs and abdomen pale,

unmarked; fore wings with venation largely green, but the radials are dark in the middle, and the gradates dark, sometimes some cubitals dark in middle, and marginal forkings a little dark.

Vertex shows a transverse groove near and parallel to hind margin; pronotum a little broader behind than long in middle, sides parallel till near front then narrowing. In male the hind tibiae have only short hair above.

In fore wings the radial area is broader than the costal, and about as broad as the post-cubital, cubital area about as wide as the costal; twelve to thirteen radials, five intermediates, five or six inner gradates, eight or nine outer ones, in parallel rows, and inner about twice as near to outer row as to the radial sector; third cubital cell rather short, two branches to hind margin, divisory vein ends a little beyond the cross-vein above, six cubitals beyond divisory vein; hairs on veins moderately long and quite numerous.

In hind wings three or four inner and eight or nine outer gradates, also near and in parallel rows; the anal area fairly long.

Length of fore wing 14 mm., width 4.5 mm.

From Paramaribo, Surinam, 7 Dec. (at light), Marienboxk, Surinam, 9 May, both by Geijskes, and Bartica, British Guiana, December (Parish Coll.); also from Tumatumari, Potaro River, British Guiana, 28 June (Cornell). Type M.C.Z. Nº 26.212, and in Geijskes collection.

Chrysopa alobana sp. nov.

Body pale yellowish, a more or less distinct dark spot each side on clypeus, otherwise unmarked; legs and antennae pale, last joints of palpi dark. Fore wings with gradates, costals in part, radials in middle, origin of radial sector, and a few basal veins dark; stigma yellowish; hind wings with gradates and costals partly dark.

Antennae not as long as fore wings; vertex is mostly a triangular elevation; pronotum a little longer than broad, sides parallel.

In fore wings the costal area at broadest about as broad as costal. Six cubital cross-veins beyond the divisory cell, latter more than twice as long as broad, ending a little beyond the cross-vein above; third cubital cell scarcely longer than second; ten or eleven radial cross-veins; about five inner and seven outer gradates, in nearly parallel rows, inner about one-half way between radial sector and outer row; hairs on veins moderately long. In hind wings four inner and five outer gradates, parallel.

Length of fore wing 11.5 mm., width 4.2 mm.

From Barrancas, Orinoco River, Venezuela, 13 to 16 Feb. (Weber coll.) and Botanic Gardens, Paramaribo, Surinam, 22 June (Geijskes coll.), Type M.C.Z. Nº 26.211.

Chrysopa albatala Bks.

Venezuela; San Esteban (E. Carabobo), 10 Feb. (Anduze); El Castillo; 27 Feb. (Anduze).

British Guiana; Bartica, Dec. (Parish); Kartabo 21 July (Beebe); Upper Rupununi Riv. Feb. March (Ogilvie); Tumatumari, 13 Aug.

Surinam; Paramaribo, Dec. to March (Geijskes); Moengo, 10 April (Geijskes); Moengo, Boven Cottica, 21 May; Zanderij; Boven Para, 20, 25 April (Cornell).

Ch. limitati Navas was described from "Nuevo Friburgo, Brasil", another specimen from Berbice, British Guiana. Prof. Smith's notes refer to the British Guiana specimen, and these indicate that it may be the same as *albatala,* both described in 1913. The type from Southern Brazil may be different.

Chrysopa rufolinea Bks.

Colombia; Cali 1.000 m. (Fassl).

Chrysopa arioles new name.

Ch. binaria Navas 1928 nec 1923.

Described from Central America, I have seen a specimen from Trinidad.

Chrysopa reducta sp. nov.

Pale grenish, face without marks on cheeks or elsewhere; palpi pale, unmarked, antennae brownish, except pale basal joint; pronotum with a reddish lateral streak near the edge; rest of thorax unmarked, also abdomen and legs; venation mostly green, the gradates dark, some of the radials and costals dark in middle; in hind wings the gradates less distinctly dark.

Pronotum broader behind than long, slightly narrowed in front, sides straight; hind tibiae only slightly swollen.

In fore wing the costal area at broadest not as wide as radial area, latter a little broader than post-cubital area, which is plainly broader than the cubital area, but the latter is as broad as the costal area. Divisory cell ends beyond the cross-vein; six cubital cross-veins beyond the divisory; the second cubital cell about as long as the third, both narrowed above and below at the separating cross-vein; twelve radial cross-veins; costal stigmal area not as broad as the subcostal, latter with about four cross-veins; gradate rows near each other, parallel, the inner almost twice as near outer as to the radial sector, only two or three inner gradates, about seven outer, inner row arises about halfway between last and next to last cubital cross-vein; branches of radial sector scarcely bent at inner gradates; hair on veins of moderate length. In hind wing the gradates are similar in position and number to those in fore wing, ten radials.

Length of fore wing 11.5 to 13 mm., width 4 to 4.4 mm.

From Muzo, Dept. Boyaca, Colombia, 900 m. (Bequaert); also Colombia, acc. 4979 (Amer. Mus. Nat. Hist.), and Paramaribo, Surinam (K. Mayo, Acad. Nat. Sci., Phila.), and 3 December, 15 March, at light (Geijskes), also source of Rio Essequibo, British Guiana (Ogilvie), and Tumatumari, Potaro River, 28 June (Cornell). Type M. C. Z. Nº 26.209.

Chrysopa nesotala sp. nov.

Pale yellowish, face with a brown streak under each eye reaching down on side of clypeus; palpi mostly black; antennae pale, basal joint with a brown spot above near tip; vertex with two short brown streaks curved toward each other; pronotum with a broad, dull red stripe each side. Fore wings with many cross-veins brown, costals partly, radials in middle, several basal and branches of anal vein, and the gradates wholly, last cubital, and origin of radial sector, brown; stigma dull yellowish.

Antennae shorter than fore wings, pronotum much broader than long, sides parallel.

In fore wings five inner and six outer gradates, in parallel series, inner nearer outer than to radial sector; six cubital cross-veins beyond divisory cell, latter more than twice as long as wide, ending beyond the cross-vein above; third cubital cell no longer than second; ten or eleven radial cross-veins.

Costal area at widest not equal to radial area, nor to post-cubital area, latter a little broader than cubital area; hair on veins of moderate length; in hind wings four inner, five outer gradates, parallel.

Length of fore wings 13 mm., width 4.5 mm.

One from Rio Ognacatal, Western Cordillera, Colombia, 2.000 meters (Fassl coll.). Type M.C.Z. Nº 26.210. There is a named specimen in the Paris Museum, but I cannot find that it is published.

CHRYSOPODES NAVAS

1. Basal joint of antennae largely dark above, and two dark streaks near middle of vertex; inner and outer gradates about parallel.... 2

   Basal joint of antennae mostly pale above; no dark streaks on vertex; inner row diverges from outer row of gradates and extends up toward radial sector 3

2. Face with a triangular dark mark in the middle; antennae pale beyond second joint; front tibia unmarked.. species from Bolivia.

   Face without dark mark in middle; antennae dark beyond second joint; front tibia with a black streak on base..... ..... species from Brazil.

3. Costal cross-veins before middle plainly oblique; some gradates faintly margined; traces of third row of gradates..... *pulchella.*

Costal cross-veins on basal part scarcely oblique; marginal forks not dark; no indication of a third row of gradates..... *inornata.*

Ch. geayi Navas (Nothochrysa) would go according to wings in number three; the wings are heavily marked; the head was absent, or was not described. It was from Venezuela.

Chrysopodes inornata Bks.

Surinam; Paramaribo, Botanic Garden, 15 Feb. (Geijskes). Colombia; Imntas, Rio Dagna, 400 m. August (Fassl); described in Allochrysa.

Chrysopodes pulchella Bks.

Surinam; Paramaribo, Charlesburg, 19 April (Geijskes). Type is from Para, Brazil.

Nodita Navas.

The table for species is in three parts, those with the hind margin of hind wings brown, all are large species; second, those without hind border of hind wings brown, one section those with the fore wings at least 15 milimeters long, and those with the fore wings shorter; a few species are tabulated in each section.

A — Species with hind wings margined behind with brown.

1. Large red mark on face under each antenna, sometimes connected; red spot each side on pronotum; radial sector in both wing dark in part; gradates in both wings pale; very large, more than ten cubitals beyond divisory; fully twelve inner gradates.. *marginalis.*

No large red spot under each antenna; fewer inner gradates, and cubitals 2

2. Gradates in hind wing dark 3
Gradates in hind wing pale 4

3. Outer side of divisory cell nearly twice as long as basal; no marks on vertex; pronotum with a reddish spot each side, not a stripe.. ..... *neuralis.*

Outer side of divisory cell little if any longer than basal; two red lines on vertex; pronotum with reddish stripe each side, four spots on front lobes of mesonotum ..... *amazonica.*

4. Fore wings with gradates pale, no mark on cheeks, none on pronotum, nor mesonotum; radial sector partly dark in both wings.. ..... *eubule.*

Fore wings with at least some gradates dark; red mark on cheeks... 5

5. Anterior mesonotal lobes with rounded dark spots, and on lateral lobes of meso- and metanotum is a small spot or dark line (not always visible); reddish or brownish marks on joints of antennae beyond second for some distance..... *maronica.*
No marks on mesonotal lobes; no dark on antennal joints beyond second ..... *clepsydra.*

B — Species with hind wings not margined with brown on the hind border.

a — Species with fore wings 15 millimeters or more long:

1. Palpi pale 2

Palpi partly dark 6

2. Fore wings with base of radial sector, various gradates and cubitals, black and bordered with black; a dark spot at tip of hind wing; veins in hind wing, except base of radial sector, wholly pale..... ..... *gloriosa.*

No such bordered veins in fore wing 3

3. A dark band across face just below antennae and an angulate mark behind antennae; lateral lobes of mesonotum often with a dark spot ..... *nigrovaria.*

No band across face; radial sector often dark in part..... 4

4. A large red transverse spot each side on the pronotum, nearly connected in middle; gradates and many cross-veins black... *clystera.*

No such transverse marks on pronotum 5

5. Basal joint of antenna unmarked, beyond the antenna is black gradually passing to brown ..... *panamana.*

Basal joint of antenna with a reddish stripe, beyond some joints have a brown dot but rest wholly pale..... *montanola.*

6. Near posterior third of pronotum there is a black dot or dash each side; an angulate line behind antennae; radial sector often without dark stretch in fore wings; first cubital cross-vein beyond the divisory cell oblique; base of radial sector not bordered.. ..... *lancala.*

No such dark marks on pronotum 7

7. Base of radial sector bordered with dark; most cross-veins dark, tip of hind wings almost dark; radial sector in hind wings dark near middle; basal joint of antennae reddish above.... *cruentata.*

Base of radial sector dark, but not bordered, tip of hind wings not dark; basal joint of antennae at most with stripe..... 8

8. Meso- and metanotum with black or dark red stripe on each side extending forward onto the pronotum; stigma yellowish, dark at base; hind wings slender, and very acute at tip....., *euterpe.*

No such marks on thorax; body pale, pronotum with some red on sides; stigma not yellowish; hind wings not so slender.. *caucella.*

b — Species with fore wings not 15 mm. long:

1. Fore wings with a large brown spot over stigma and behind encloses two or three hyaline spots; also large spot on stigma of hind wings; meso- and metanotum nearly black; hind wing without apical dark spot ..... *palliceps.*
   No such large brown spot in fore wings..... 2
2. Palpi plainly black in part; tip of hind wing usually dark, usually a dark band across lower part of face, seven cubital cross-veins beyond the divisory cell 3
   Palpi pale 7
3. Vertex (at least in male) much elevated above eyes, with a median point ..... *surinamensis.*
   Vertex not elevated noticeable above eyes 7
4. Pronotum with an elongate black mark on each side, not extending on anterior part; second and two or three more joints of antennae black above ..... *championi.*
   Pronotum with a reddish stripe along each side..... 5
5. Radials (except last few) and intermediates pale; costals dark on outer part only; in hind wing the branches of cubitus near its end are heavily marked with black, a few antennal joints beyond second with a dark mark ..... *postica.*
   Radials and costals almost wholly dark, intermediates partly dark, no large median area of pale veins; in hind wing no dark marks behind last cubital cross-vein 6
6. Divisory cell plainly much longer on outer side than on basal; some cubitals and gradates plainly bordered with dark; abdomen with two dark spots above..... *heriocles.*
   Divisory cell usually with outer side but little longer than basal; no cubitals nor gradates bordered; abdomen with two rows of red spots above ..... *cruentata.*
7. A dark band across face; six cubital cross-veins beyond divisory cell (if a seventh it is very small)..... 8
   No dark band across face just below antennae, may be a spot under each antenna, base of radial sector often not bordered by black spot 10
8. A distinct brown spot at tip of hind wing; dark band across lower part of face ..... *cornesta.*
   The dark band across face just beneath antennae; tip of hind wing only faintly dark on ends of the veins..... 9
9. Tip of hind wing not dark; tip of anal vein and adjoining branch from third cubital cell in fore wing distinctly dark, almost bordered, pronotum with marginal line ..... *aleura.*
   Tip of hind wing with the veins dark, but hardly a spot; tip of anal vein and adjoining branch from third cubital cell of fore wing not noticeably dark; some outer gradates and base of radial sector bordered with black; pronotum with a short black line each side ..... *lenora.*
10. With six cubital cross-veins beyond divisory cells radial sector of fore wing dark near middle ..... *minima.*
    With seven cubital cross-veins beyond divisory cell; radial sector of fore wing not dark 11
11. A dark spot under base of each antenna close to eye; basal joint of antennae with a dark stripe on outer side..... *submacula.*
    No dark spots under antennae; basal antennal joint almost wholly dark above; abdomen with two large black spots above.... *cortezi.*

Nodita neuralis Bks.

Colombia; Bogota (Dorhn); Cali Valley, 27 April; San Antonio, January, 5.000 ft. (Fassl).

Venezuela; Mt. Duida, 22 December, 15 January (Amer. Mus. Nat. Hist.)

Nodita palliceps McLachl.

British Guiana; 5 April (Cornell).

Nodita gloriosa Bks.

Colombia; Tolima, November, 5.000 ft. (Fassl).

Nodita amazonica Nav.

British Guiana; Bartica (Parish).

Nodita clepsydra Bks.

Colombia; Caldas, May, 4.900 ft. (Fassl); Inmbo, Cauca, January, 3.000 ft. (Fassl).

Nodita marginalis Bks.

Colombia; Bogota (Dohrn). Type from Bolivia.

Nodita maronica Nav.

British Guiana; Kartabo, 18 July; Bartica, December (Parish); Tumatumari, July (Amer. Mus. Nat. Hist.)

Surinam; Paramaribo, 12 December; Charlesburg, 6 April, 21 August, (Geijskes); Paramaribo (K. Mayo) (Acad. Nat. Sci., Phila.)

Venezuela; San Silvestre (E. Barinas), January; San Esteban (E. Carabobo), 18 November, 15 December (Anduze).

Nodita eubule sp. nov.

Face unmarked; palpi pale; antennae pale, basal joint shows faintly a dark mark at tip above; pronotum pale, no distinct marks, also meso- and metanotum; abdomen brown above, paler below. Fore wings with few cross-veins wholly

dark, but costals dark on outer ends, some of the first few radials and some cubitals and intermediates dark in the middle; radial sector slightly dark at middle, marginal forkings slightly dark, gradates wholly pale.

In hind wings the radial sector plainly dark in middle, but branches not darkened, a few costals partly dark, otherwise venation pale except that the marginal forks are brown with a brown shade along the brown marginal vein.

Pronotum longer than broad, tapering forward. Fore wings with sixteen radials, eight or nine cubitals beyond the divisory cell, latter triangular, outer side scarcely longer than inner; nine inner and eight outer gradates in nearly parallel series, but rather far apart; costal area not nearly as broad as radial, latter broader than post-cubital, the cubital area tapering to less than one-third the width of the post-cubital. In hind wings twelve radials, six or seven gradates in each series, and nearly parallel, inner much nearer to radial sector.

Length of fore wing 17 mm., width 7 mm.

From Rio Frio, Magdalena, Colombia, 7 March (Darlington).

Type M.C.Z. Nº 26.213.

Nodita lancala sp. nov.

Body yellowish; a brown spot under each eye, usually a small dark mark in middle just below the antennae; palpi marked with black, an angulate brown line above antennae; latter pale, basal joint with two red marks, one toward inner side is short, other above toward outer side is long; pronotum with reddish streak by side margin, and above behind middle is a black dot each side; a reddish or brown line usually present on each side of anterior lobe of mesonotum, a more or less distinct dark spot on each lateral lobe, and less distinc dark marks on metanotum; abdomen with some black marks above near middle. Fore wings with the gradates wholly, and many cross-veins at one or both ends dark, marginal forks also dark, and a dark spot over origin of radial

sector; in fore wing the radial sector is rarely darkened before stigma, although the branches there are very plainly dark each side; stigma with a brown spot at base.

In hind wings the radial sector is dark for a short distance before stigma, a few branches somewhat dart at base, gradates dark, but few, if any other cross-veins dark; stigma with dark at base. Pronotum a little longer than broad, narrowed in front; fore wings moderately broad, costal area hardly as broad as post cubital area; five to seven inner, and six to eight outer gradates, in nearly parallel series, and not very close to each other, seven or eight cubitals beyond divisory, the first usually very oblique; divisory veinlet ending well beyond the cross-vein above; postcubital area about one-half broader than the cubital area; hairs on veins moderately long, toward apex about width of a cell. In hind wings 5 to 7 inner, 6 to 8 outer gradates.

Length of fore fing 16 to 18 mm., width 6.5 to 8 mm.

From Rio Frio, Magdalena, Colombia, 22 July (Salt coll.); Caldas, Colombia, 4.400 ft., May (Fassl coll.); Paramaribo, Surinam 30, 31 Jan., 2 Febr. (Geijskes coll.), and also from Paramaribo (K. Mayo coll. Acad. Nat. Sci., Phila.)

One from Obydos, Brazil, 25 Au. (Parish coll.) appears to be the same, but is faded.

Type in M.C.Z. Nº 25.653 paratypes in M.C.Z., Acad. Nat. Sci. Phil., and Geijskes collection.

Nodita lancala var. *plenota* var. nov.

This differs from the normal form in having the spots across front of mesonothm greatly enlarged and dark brown; on the face there is a median transverse dark bar just below the antennae, and the lateral lobes of metanotum are also dark. The second and third joints of antennae are marked with reddish. There is more black on the cross-veins of the wing than in the typical form.

Specimens from Paramaribo, Surinam, 20 January and 1 April (Geijskes coll.) Type M.C.Z. 26.214.

Nodita montanola Bks.

Colombia: Tolima, 5.000 ft., December (Fassl).

Nodita panamana Bks.

Surinam: Charlesburg, 9 April (Geijskes).

Colombia: Rio Frio, Magdalena, 14 April (Salt).

Nodita euterpe sp. nov.

A dark reddish spot under each eye, a dot between bases of antennae, vertex with a median dark spot above the antennae, and a red-brown line each side. Palpi mostly dark; antennae pale, basal joint with a reddish line above. Pronotum with a broad dark stripe each side, continued back over the outer sides of meso- and metanotum as a broad nearly black stripe on each side above bases of wings; abdomen mostly dark above, much paler beneath; legs pale, unmarked. Fore wings with the gradates wholly black; costals on outer half, most of radials, cubitals, marginal forks, and branches of cubital and anal veins partly or nearly wholly dark; base of radial sector and stem of the divisory cell black.

In hind wings gradates wholly dark, the last cubital crossvein, forgings of marginal forks, outer ends of most of the branches of cubital vein to margin plainly brown; stigma in both pairs yellow, dark at base.

Fore wings rather broad, rounded at tip; thirteen radials, seven inner and eight or nine outer gradates in slightly divergent series; seven cubitals beyond the divisory cell, latter with outer side one-and-a-half times as long as basal side, first cubital beyond only slightly oblique; radial area a little broader than costal area, also broader than post-cubital area which is much broader than cubital area.

Hind wings slender, tip sharply acute; ten radials, about six in each row of gradates, in nearly parallel series.

Length of fore wing 16 mm.

From Paramaribo, Surinam, (K. Mayo); Type in the Acad. Nat. Sciences of Philadelphia.

Nodita caucella Bks.

Colombia: Inmbo, Cauca, January, February, 3.000 ft. (Fassl); San Antonio, January, 6.500 ft. (Fassl); Tolima, October, 5.000 ft.; Alto de las Cruces, January, 6.000 ft. (Fassl.)

Venezuela: Mt. Duida, 22 December (Amer. Mus. Nat. Hist.)

Nodita nigrovaria Walker.

Colombia: Minero, Muzo 1.500 ft. (Fassl).

Nodita clystera Bks.

Colombia: San Antonio, 5.500 ft. February (Fassl).

Nodita aleura sp. nov.

Face with a dark band beneath antennae; vertex with two large reddish spots; palpi pale; basal joint of antennae reddish brown above, second joint dark above, beyond all pale; pronotum with indistinct reddish mark each side; meso- and metanotum largely dark above; abdomen with two large dark spots above.

Wings without large dark spots above except one at base of the yellowish stigma; in fore wings base of radial sector, the gradates, outer radials and some cubitals dark, none bordered, other cross-veins pale or dark in part, but the end of the first anal vein and the adjoining branch from the third cubital cell are plainly black and almost bordered, and also the same veins in the hind wing; the gradates dark, other veins mostly pale, no dark mark at tip.

The fore wings hardly acute at tip; the costal area toward base is broader than in *postica* and allied species; five to six inner, seven outer gradates; six cubital cross-veins beyond divisory cell; two branches to margin from third cubital cell; tho the cubital area is broader than usual, the postcubital area is one-half broader. In hind wing five inner, six outer gradates; cubital and post cubital areas also broad.

Pronotum broader than long tapering toward front.
Length of fore wing 14 mm.
One from Botanic Gardens, Paramaribo, Surinam, 30 January (Geijskes). Type M.C.Z. Nº 26.215.

Nodita championi Navas.

Venezuela: San Esteban (E. Carabobo), 8 December (Anduze). Occurs also in Panama.

Nodita minima Bks.

Colombia: Caldas, 4.400 ft. May (Fassl).

Nodita postica Navas.

Surinam: Maroroijne, Pedrosoengoe Valley, 30 June; Toemach-Hoemak Mts., 600 m., 20 July (Geijskes).

French Guiana: Mana River, May (Le Moult).

Nodita cortezi Navas.

Venezuela: San Esteban (E. Carabobo), 15, 29 December (Anduze).

Trinidad: St. Augustine, July (Weber).

Nodita surinamansis sp. nov.

Pale yellowish, face almost white, a black mark at lower end of each eye, continued obliquely downward across lower part of clypeus to form an angular band; palpi black, antennae pale, basal joint with red brown stripe above, and a dot on second joint; pronotum pale, a reddish stripe each side with an inner projection at middle; mesonotum with a brown spot each side on anterior lobe, and a dot over base of wing; abdomen with a dark brown spot toward tip.

Wings clear. stigma yellowish, a dark spot at base, gradates, cubitals, branches of cubitus to margin, and a few veins near base dark; last cubital cross-vein and first outer gradate somewhat bordered with dark; costal cross-veins hardly dark. In hind wings the venation mostly pale, but the last one or two cubitals and the first one or two outer gradates dark, tip of wing with a dark spot.

Head of male with the vertex elevated in a cone, in front of which are two faint dark spots; pronotum longer than broad behind; hind tibia of male with a few long hairs behind.

Wings rather slender, hind ones acute at tip; in fore wings the costal area is about as broad as the radial area, and a little broader than the postcubital area; cubital area about two-thirds as wide as the post-cubital; about eleven radial cross-veins, six intermediates, five in each gradate row, the rows diverging, and the branches of radial sector disjointed by the inner gradates; seven cubitals beyond the divisory veinlet, latter ends well beyond the cross-vein above; third cubital cell nearly twice as long as broad at tip and with but one branch to the hind margin.

In the hind wings three or four gradates in each row, the rows not quite parallel, six cubitals, anal area very narrow.

Length of fore wing 11 mm., width 3.5 mm.

From Toemach-Hoemah Mts., Surinam, Waremapan creek, 23 July (Geijskes). Type M.C.Z. Nº 26.216.

Related to *N. radiosa* but the vertex of male different from any Chrysopid seen by me.

Nodita cornesta sp. nov.

Belonging to the group of *postica* and *lenora*; the band on face at upper edge of clypeus; basal joint of antennae with reddish mark above, second joint also reddish, others beyond pale; palpi pale; pronotum with a short black streak each side near anterior end much as in *N. lenora*; lateral lobes of mesonotum and base of fore wings dark; abdomen with two black spots above.

Fore wings with venation mostly pale; a large black spot over origin of radial sector, extending on first intermediate; the lower stem of divisory cell, the cubitals, and first gradate in each series black and bordered with black; yellowish stigma with large black spot at base; outer gradates black, inner not so dark, costals and some postcubitals dark on outer end dark, marginal forks dark.

In hind wings a spot over base of radial sector, one at base of yellowish stigma, and a definite brown spot at tip of wing, the last cubital cross-vein and the outer gradates black, some costals partly black.

Wings rather slender, and strongly acute at tip; in fore wing six cubitals beyond the divisory cell; five inner and six or seven outer gradates, in nearly parallel series; postcubital area almost twice as broad as cubital area. In hind wings four inner and four or five outer gradates.

Length of fore wing 11 to 12 mm.

From Godeberi-Maroni, French Guiana (Le Moult), and Teniomarien, Toemoch-Hoemah Mts., Surinam, 27 July, (Geijskes). Type M.C.Z. Nº 26.218.

Differs from *postica* in pale palpi; less marked wing, different marks on pronotum, and fewer cubital cross-veins; from *lenora* in less marked wing, lower position of band on face ,and the definite black spot at apex of hind wing.

Nodita submacula Bks.

Colombia: Rio Frio, Magdalena, 20 May (Salt).

Surinam: Paramaribo, Charlesburg 7, 12 April (Geijskes).

Nodita cruentata Schneider.

Surinam: Botanic Garden, Paramaribo, 1 May, 15 August, (Geijskes).

French Guiana: St. Jean du Maroni, February (Le Moult).

Venezuela: San Esteban (E. Carabobo), 14 December (Anduze).

Nodita lenora sp. nov.

In general similar to *N. postica,* stigma same, but the dark band across face is just beneath the antennae; basal joint of antennae partly or wholly dark above, second joint also dark, others beyond pale; pronotum has a short black streak

on each margin near the anterior end; lateral lobes of mesonotum sometimes almost black, and anterior lobes usually show a reddish line across their bases.

Wings not so heavily marked as in *N. postica,* a smaller spot on base of radial sector; the cubitals, some post cubitals, and the gradates are dark and more or less bordered, other cross-veins dark in parte, at least at ends.

Hind wings with marginal vein and others ending close to tip of wing are brown, but no brown in membrane; the gradates mostly dark, other cross-veins pale or mostly so. Pronotum in most specimens slender, but with anterior part shrunken it is broader than long.

In fore wings six cubital (rarely a small seventh- beyond divisory cell; five inner, six outer gradates, rather widely separated; the post-cubital area one-half broader than cubital area; usually but one branch from third cubital cell to margin. In hind wings three or four inner, four or five outer gradates.

Length of fore wing 13 mm.

From Botanic Gardens, Paramaribo, Surinam, March, April, June (Geijskes); San Esteban (E. Carabobo), Venezuela, 15 December (Anduze); also Para, Brazil, 7 July (Parish). Type M.C.Z. Nº 26.217.

Nodita heriocles sp. nov.

In general near to *N. postica*; palpi black, a dark band across lower face, dark on basal joint of antennae, also on second joint, but joints beyond without spots; side stripe on pronotum the same. Wings much the same, but the larger spots of *postica* are lacking, veins more narrowly bordered, no large spot on base of radial sector, and in hind wings none near end of cubitus. It differs in having the costals wholly dark, the radials and intermediates almost wholly dark, thus lacking the large pale area in middle of wing seen in *postica.*

Gradates five inner, six outer. in nearly parallel series; seven cubital cross-veins beyond divisory cell; but one branch from third cubital cell to margin.

In hind wing the costals, except near stigma, are dark, the radial and intermediates, except those near base, are dark at the ends, and this dark extends on the radial sector, so sometimes the sector is wholly dark for a short distance; gradates dark, three or four inner, five or six outer; tip dark as in *postica.*

Abdomen with two large black spots above.

Length of fore wing 10 to 13 mm.

From Bartica, British Guiana (Parish), Botanic Gardens and Charlesburg, Paramaribo, Surinam, in May and Augost (Geijskes), and Kwakoegron, Surinam, 11 June (Cornell). Type M.C.Z. Nº 26.219.

Vieira Navas.

Vieira leschenaulti Navas.

Surinam, Paramaribo, Charlesburg, 12 Feb. (Geijskes).
Paramaribo, Cultuurtuin, 26 Jan. (Geijskes).

Berkmansus Navas.

Berkmansus elegans Guerin.

Surinam: Paramaribo, Charlesburg, 23 Aug. (Geijskes).
Not uncommon in Brazil.

Cacarulla Navas.

Cacarulla maculipennis Bks.

Tolima Canon, 1.700 m. October (Fassl). Also known from Perú and Bolivia.

LEUCOCHRYSA MCLACHLAN

1. The inner gradates so far basally that but two or three intermediates are left uncrossed; twelve to fifteen cubitals beyond the divisory cell ..... *colombia.*

   The inner gradates not so far basal, at least four intermediates uncrossed 2

2. Antennae with several joints beyond the second dark brown or black; in fore wing there is a brown shade or umbra behind the outer gradates, and another in hind wing at broadest part over forkings of post-cubital area ..... *magnifica.*

   Antennae not marked with dark beyond second joint..... 3

3. The cell behind the third cubital, and often part of the third cubital, distinctly grayish brown ..... *clara.*

   No such mark 4

4. Second joint of antennae at least partly dark, radial sector not dark in middle 5

   Second joint of antennae not dark 6

5. Reddish to red brown spots below base of antennae; pronotum long and slender ..... *varia.*

   No red below base of antennae; an angulate red line above base of antennae, no median red marks on vertex; pronotum shorter than in *N. varia* ..... *pretiosa.*

6. Radial sector dark toward stigma, and branches each side dark at base ..... *bolivari.*

   Radial sector not dark 7

7. Labrum black, and black Y-mark between antennae..... *nigrilabris.*
   Labrum pale; no black mark between antennae, radial cross-veins dark in middle ..... *corderilla.*

The three following species are recorded from the area.

L. claveria Navas 1927, is a synonym of *L. colombia.*

L. phaeocephala Navas 1929, according to description, does not differ from *L. varia.*

L. vegana Navas 1917, said to be much like *L. varia,* I think is *varia*; *L. varia* varies in amount of black at base of fore wings.

Leucochrysa bolivari sp. nov.

Face pale, a reddish mark on each cheek; palpi pale; antennae pale, no marks on first nor second joints.

Pronotum with a large elongate reddish spot each side, lobes of mesonotum with a smaller reddish spot; abdomen pale, rather darker on base above.

Fore wings with the middle of radial sector and base of branches therefrom black; base of radial sector, stem of divisory cell, some costals on outer ends, and some cubitals in middle more or less dark; marginal forks faintly brownish, otherwise venation pale; in hind wings the middle of radial sector and branches from it are black as in fore wings, marginal forks scarcely brownish, remainder of venation pale.

In fore wing seventeen radials, seven or eight cubitals. nine inner and six outer gradates, the rows rather far apart and not parallel, the inner row extending basally a little; radial area broader than costal area and at least as broad as the post-cubital area, the latter at base but little broader than cubital at base, but at tip fully four times as broad as cubital at tip, divisory cell with base only slightly oblique; in hind wings fifteen radials, about eight gradates in each series, the inner row diverging and rather remote from outer row; eight cubitals; tip of hind wing acute. Pronotum little broader than long.

Length of fore wing 17 mm., width 7 mm.

From Inmtas, Rio Dagna, West Colombia, May, 8.000 ft., (Fassl). Type M.C.Z. Nº 26.220.

Leucochrysa varia Schneider.

British Guiana: Tumatumari, August (Amer. Mus. Nat. Hist.); Kartabo, Bartica, December (Parish).

Surinam (coll. Thorey in M.C.Z.)

A type from "Bresil" in Hagen collection.

Leucochrysa pretiosa Bks.

Colombia: Inmbo, Cauca, January, 3.000 ft.; Soromoco. 800 m.; Minaro, Muzo, 500 m.; Villavicencio, 450 m., January, all by Fassl.

Venezuela: San Esteban (E. Carabobo), 9 to 27 December (Anduze); Rio Chacaito (Est. Miranda), 12 September; Caipe (Est. Barinas), January (Anduze).

Leucochrysa clara McLachlan.

Colombia: Río Negro (Fassl).

Leucochrysa colombia Bks.

Colombia: Sta. Margarita, July, 7.000 ft.; Pacho, 6.000 ft.; Canon del Monte, Tolima, October, 5.000 ft.; St. Antonio, November, 5.500 ft., Inmtas, Rio Dagna, 1.200 ft.; Rio Ognacatel, West Cordillera, 5.500 ft. (all by Fassl).

Leucochrysa cordillera Bks.

Colombia, Inmtas, August, 1.200 ft. (Fassl).

Leucochrysa magnifica Bks.

French Guiana - Godebert - Maroni (Le Moult).
British Guiana - Kartabo (Wheeler).
Venezuela, Northern Range (R. Lichy).

Leucochrysa nigrilabris Bks.

Colombia, San Antonio, December, 3.000 ft.

GONZAGA NAVAS

1. Hind wing with a rather large dark spot near middle of hind wings. Fore wings with only a small dark spot near stigma, but a large dark spot beyond middle of radial sector, and behind it a broad curved stripe starting from last cubital cross-vein and curving upward; several other smaller dark spots; about six cubital cross-veins beyond divisory cell ..... *calliptera.*

   No large dark spot in disc of hind wings; about eight to ten cubital cross-veins beyond divisory cell; a large spot in fore wings over stigma and extending backward to radial sector..... 2

2. An elongate mark at end of cubital cross-veins and extending out and upward toward wing-tip; pronotum and mesonotum black; about seven to eight cubital cross-veins..... *nigriceps.*

   The elongate mark at end of cubital cross-veins does not extend far out; pronotum pale; about nine to eleven cubital cross-veins, near end two or three are usually close together..... *torquata.*

The *Hemerobus irideus* Oliv. is, quite probably, a Gonzaga or *Nodita palliceps*; it was described from Surinam.

Gonzaga calliptera sp. nov.

Head yellowish, face with a broad dark band form eye to eye; palpi pale; a dark spot between each antenna and eye, and slightly above; front of vertex with a little brown; antennae much longer than wings, basal and second joint dark above, rest of antennae pale. Pronotum pale, unmarked; mesonotum dark, almost black, but scutellum pale; metanotum slightly darkened in middle; abdomen with last four segments dark above; legs wholly pale.

Wings with venation pale, excepting the brown spots; fore wings with numerous brown marks, to wit; one over base of radial sector; an elongate brown spot before and one beyond the stigma; behind the radial sector, shortly before the stigma is a very large somewhat rectangular brown spot covering radial sector, three branches from it and three of the inner gradates; there is a minute spot on end of divisory cell, another in forking of anal vein, one on the second cubital beyond the divisory cell, one on a marginal fork, two or three coss-veins beyond the last and then an upcurving band, at first following outer gradates but then curving more toward stigma; the last inner gradate also bordered with brown; the last two gradates of outer series have a brown spot extending to outer margin and covering most of two branches.

In hind wings there is a brown mark on the next to last inner gradate and extending above, but not reaching radial sector; the stigma yellowish.

Extreme base of fore wing dark, extending out over the first costal cross-vein.

The fore wings are moderately broad; the radial sector is more sinuous than in *G. nigriceps* due to the narrowing near stigma; eleven radials before stigma, two beyond; the divisory cell as in *G. nigriceps*; six cubitals beyond divisory

cell; eight inner and eight outer gradates, the latter continuing the curve of the medius; the radial area a trifle broader than costal area, the post-cubital fully as broad as the costal; the hind wings are more pointed at tip; five gradates in each series.

Length of fore wing 14 mm.

From Gt. Falls, British Guiana, 6 March (Cornell); and a paratype from Parintino, Amazon, Brazil, 18 October (Parish coll.) Paratype M.C.Z. Nº 26.222.

Gonzaga nigriceps McLachl.

Venezuela - Paraitepuy (E. Bolívar), Dec. (Anduze).
British Guiana - 28 March (Cornell).
Surinam.

Gonzaga torquata Nav.

Venezuela - San Esteban (E. Carabobo), 2 July (Anduze).

NUELA Navas.

Neula mesana Navas.

Described from Colombia; I have not seen it; possibly a *Leucochrysa* with two or three gradates misplaced.

RESUMEN

Los Chrysopidae de la América del Sur comprenden un gran número de especies, algunas de las cuales son muy comunes y de amplia distribución. Debido a la bondad del Prof. R. C. Smith de Kansas State College, quien tomó datos de los tipos en las colecciones europeas, es que el autor emprendió la ardua tarea de tabulación. Este estudio incluye a todas las especies venezolanas, conocidas hasta la fecha y la descripción de varias especies nuevas.

TIPULIDAE NUEVOS O POCO CONOCIDOS DE VENEZUELA (DIPTERA)

NEW OR LITTLE-KNOWN TIPULIDAE FROM VENEZUELA (DIPTERA)

PART III

by

Charles P. Alexander,

Massachusetts State College, Amherst, Massachusetts.

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The first part under this title was published in this *Boletin* (vol. 2: 17 - 26; 1943). In the present instalment I wish to discuss still further interesting species that have been received chiefly from Mr. Pablo J. Anduze, collected by himself and by Mr. René Lichy. A few further species result from the colecctions made in earlier years by Mr. Gaston Vivas-Berthier. Except where stated to the contrary, the types of the novelties are preserved in my collection of these flies.

Some of the most interesting records reported herewith were taken by Anduze on his recent trip to Estado Mérida, (Dtos. Rivas Dávila and Tovar). Mr. Anduze writes as follows concerning these specimens (Páramo La Negra ; Caño del Tigre; San Diego; Zea): "The material from Mérida is all from below 970 meters altitude, except Páramo La Negra which is above 3.000 meters from the slopes of the Andes in Mérida due north towards the Maracaibo lake basin". The species of *Pselliophora* taken by Lichy at Altos de Choroní, Estado Aragua, is of especial interest in that it provides the first record of this genus from South America. Concerning

the locality Surukum (E. Bolívar) (under *Ozodicera longisector*), the instructive paper by Forbes (Bol. Ent. Venezolana, 1: 25 - 36; 1942) may be consulted. It is evident that a great amount of work remains to be done on the Venezuelan Tipulidae before revisional work and synoptic treaments of a lasting nature can be attempted.

Ozodicera (Dihexaclonus) longisector sp. n.

General coloration brown, the praescutal stripes a little darker than the ground, faintly margined with darker; femoral tips narrowly and abruptly brownish black; wings relatively short and broad, dark brownish yellow, patterned with still darker brown at origin of *Rs* and along cord; *Rs* unusually long, more than twice *m-cu* and slightly exceeding vein M_1; abdominal tergites almost uniformly reddish brown, the lateral borders more or less darkened.

Female. — Length about 25 - 27 mm.; wing 18 - 18.2 mm.; antenna about 5.8 mm.

Frontal prolongation of head elongate, dark reddish brown; nasus stout; palpi black. Antennae (female) with scape reddish brown; pedicel and branched flagellar segments obscure yellow, the branches a trifle darker than the stem; unbranched terminal flagellar segments abruptly black; flagellar segments two to seven, inclusive, with slightly unequal branches, the shorter one arising from the extreme base of the longer one or both arising very close together but separately; longer branch a little exceeding the segment in length, the shorter branch about two-thirds as long; combined terminal segments about equal in length to the combined remainder of organ. Head grayish brown.

Pronotum brownish gray, patterned with brown. Mesonotal praescutum with the interspaces brownish yellow, the usual stripes slightly darker brown; mesal edges of all stripes faintly bordered by slightly darker brown; scutum brownish yellow, the lobes with darker brown areas; scutellum and postnotum brown, with a greyish yellow pollen. Pleura more

silvery gray pruinose, the ventral sternopleurite with a more glabrous darker gray area; dorsopleural membrane infuscated. Halteres dark brown. Legs with the coxae light gray pruinose; trochanters reddish brown; femora (a single foreleg remains) yellow, the tips abruptly brownish black, including about the distal eighth of the segment; tibiae similarly obscure yellow, the tips about equally but more gradually darkened; tarsi black. Wings (Fig. 1) relatively short and broad, with a very heavy brownish yellow suffusion, restrictedly paterned with still darker brown including areas at origin of *Rs* and along cord, the latter connected with the stigmal marking and further involving the post-stigmal cells; cell *C* and prearcular field rather strongly darkened; a broad yellowish seam along vein *1st A*, interrupting the otherwise uniformly darkened ground; restricted obliterative areas across vein M_3 and basal section of M_{1+2}; veins brownish yellow. Venation: *Rs* unusually long, about two and one-half times *m-cu* or slightly exceeding in length vein M_1.

Abdomen with the more proximal tergites reddish brown, beyond the first conspicuously bordered laterally with darker brown; in the type, all the tergites are more uniform reddish brown; in the paratype, tergite three and succeeding segments more darkened; sternites more reddish brown (type) to darker brown (paratype). Ovipositor with the cerci unusually long and slender, nearly straight.

Holotype, ♀, Surukum, Latitude about 4° 30′ N., Longitude 61° 30′ W., on the Caroní (Kukenan) River, December 1941 (Anduze); United States National Museum, through Anduze. Paratotype, ♀, in author's collection.

The most similar species among the described forms is *Ozodicera (Dihexaclonus) triguttata* Alexander, which differs conspicuously in the longer and narrower wings, with more restricted pattern and distinct venational details. The unusually long *Rs.* of the present species is noteworthy.

Pselliophora venezuelensis sp. nov.

General coloration of entire body, palpi, antennae, halteres and legs black; wings saturated yellow, paterned with brownish black, including the distal third beyond the general level of the cord, and an incomplete band before origin of *Rs,* this not including cells *C* or *Sc* but reaching the posterior border in the ends of the Anal cells at termination of vein *2nd A*; extreme wing-base blackened.

Male. — Length about 19 mm.; wing 17.5 mm.; antenna about 8 mm.

Rostrum and palpi black; nasus elongate. Antennae black throughout, relatively long, as shown by the measurements; longest flagellar branch (about flagellar segments four to six) exceeding four times the length of segments, the shorter outter branch nearly two-thirds the length of the basal one; both basal and apical branches with a dense erect dark-colored pubescence. Head black.

Thorax uniformly black, the praescutum opaque or nearly so, without stripes; praescutal setae exceedingly small. Halteres black throughout. Legs uniformly black. Wings (Fig. 2)saturated yellow, patterned with brownish black, including the distal third of wing from beyond the general level of the cord outward; inner edge of band passing just basad of the fork of *Rs* and *r-m*, across basal third of cell *1st* M_2, and including about the outer two-thirds of cell M_4; a second major area before midlength of wing, its outer edge opposite the origin of *Rs,* thence continued as an irregular but approximately direct line to the posterior border, including cells *R, M, Cu,* central third or more of *1st A* and outer fourth of cell *2nd A*; inner edge of band similarly generally straight, the area thus generally parallel-sided and rectangular in outline; a narrow white line immediately behind the basal half of vein *1st A*; base of wing black; veins deep yellow, black in the patterned portions; conspicuous obliterative areas at end of *Rs*, basal section of M_{1+2} and most of basal

section of M_3. Venation: *Rs* relatively long, nearly two and one-half times as long as *m-cu*; R_{2+3} more than three times *r-m*; cell M_1 sessile.

Abdomen black, the surface polished except near the posterior borders of the tergites where there is a narrow opaque black band, the actual borders of the intermediate segments more glabrous and piceous; tergal setae more elongate and concentrated on the opaque rings; hypopygium uniformly black.

Holotype, ♂, Altos de Choroní, Estado Aragua, November 1940 (Lichy); United States National Museum, through Lichy and Anduze.

This is a notable discovery in that it extends the known range of the genus *Pselliophora* Osten Sacken in the Neotropics into South America. The only other species known from the New World is the recently characterized *Pselliophora mesamericana* Alexander, of Guatemala. As indicated under the discussion of this latter fly (Bull. Brooklyn Ent. Soc., *in press*), the discovery of species of this genus in America was most suprising and difficult of explanation on the basis of geographical distribution of life. To the north, in the western Neartic Region, the subtribe Ctenophoraria, to which *Pselliophora* belongs, is represented only by the very different group *Malpighia* Enderlein, while in the eastern Neartic, there occur only the genera *Ctenophora* Meigen and *Tanyptera* Latreille. The center of distribution for the genus is in the Oriental and southern portions of the eastern Palaeartic regions where approximately 80 species are known to this time. There is a marked variation in color in different members of this subtribe and it seems very probable that such a range will be found to occur in our American species of *Pselliophora*. However, there can seem to be no question of the distinctness of the two species so far discovered. These may be separated by the following key:

Body almost uniformly orange, including the head and abdomen, excepting a dark spot on the outer tergites of the latter; palpi, antennal scape and stem of halteres yellow; wings with the basal dark band entirely crossing the wing; a dark spot in axilla; wing base entirely pale; antenna (male) shorter (length about 7 mm.)

(Guatemala) *mesamericana* Alexander.

Body uniformly black, this including also the palpi, antennae, halteres and legs; wings with the basal dark band incomplete, not involving cells *C* or *Sc*; no dark spot in axillary region; wing base conspicuously blackened; antenna (male) longer (length about 8 mm.)

(Venezuela) *venezuelensis* sp. n.

Tipula (Microtipula) immerens sp. n.

Mesonotal praescutum with the ground color reddish brown, almost obliterated by four poorly indicated stripes, those of the posterior third of sclerite more conspicuously darkened than is their cephalic portion; antennae (male) relatively long, nearly two-thirds the remainder of body; flagellar segments strongly bicolored, yellow with brownish black basal enlargements; femora obscure yellow, passing into black, the latter enclosing a conspicuous yellow ring; wings cream-yellow, variegated with dark and paler brown, the former ocurring chiefly as five subcostal areas and a series of three darkenings behind vein *Cu*, these interconnected across the basal cells by continuous paler bands; numerous macrotrichia in all outer cells of wing from stigma to outer end of cell *1st A;* cell M_1 petiolate; M_{3+4} very short, with *m-cu* at its fork; abdominal tergites brownish black, obscure brownish yellow sublaterally; subterminal segments blackened.

Male. — Length about 8.5 mm.; wing 10.8 mm.; antenna about 5.4 mm.

Frontal prolongation of head relatively short and stout, dark brown; palpi brownish black, the short basal segment

with a rounded basal portion that is set with conspicuous long black setae. Antennae (male) relatively long; scape and pedicel yellow; flagellar segments bicolored, the base brownish black, the remainder yellow, the bicolorous nature becoming obscured on the ninth and succeeding flagellar segments; basal enlargements of segments poorly indicated; verticils much shorter than the segments. Head brownish yellow.

Pronotum dark brown. Mesonotal praescutum with the restricted ground color reddish brown, with four poorly indicated stripes, the posterior third of sclerite more conspicuously darkened than the cephalic portion, excepting a median darkening on cephalic portion of sclerite; posterior sclerites of notum conspicuously dark brown, the scutellum and median portion of scutum more pruinose; central portion of mediotergite broadly pruinose; pleurotergite chiefly darkened, sparsely pruinose. Pleura with the propleura and most of mesepisternum brownish black, the posterior portion of the latter and most of the pteropleurite abruptly pale yellow; metapleura darkened. Halteres relatively elongate, stem yellow, knob brownish black. Legs with the coxae pale, sparsely pruinose; trochanters obscure yellow; femora obscure yellow basally, darker outwardly, the tips broadly blackened, preceded by a subequal or slightly narrower yellow ring, which, in turn, is preceded by a broader but more diffuse darkened annulus; tibiae and tarsi brown, the latter a triffle brighter. Wings with the ground color cream-yellow, heavily patterned with dark and paler brown; the darkest pattern occurs as five subcostal areas, the first at and beyond *h*, occupying cells *C* and *Sc*; second and third areas not including cell *C* but continued caudad into cell *R*, the third at origin of *Rs*, the fourth at stigma; fifth area at midlength of outer radial field, beginning at *C*; the first three areas cross cells *R* and *M* as much paler bands but again become very intense in cell Cu_1, not involving cell *Cu* itself; dark areas in cell Cu_1 more extensive than the pale interspaces; cell *C* almost uniformly pale brown, interrupted by a yellow posthumeral spot and another just before the stigma; cells beyond cord and pos-

terior cells of wing pale brown, variegated by cream-colored areas, the latter including apical spots in all cells from R_3 through *1st A*, the latter with two such markings; veins brown, yellow in the major interspaces, especially of *Sc*, *R*, Cu_1 and Cu_2. Numerous macrotrichia in cells beyond cord, including the stigma, more sparse or lacking in the bases of the individual cells, especially M_3 and M_4, in cells *Cu* and *1st A* involving only the outer ends of the cells. Venation: Petiole of cell M_1 subequal in length to *m*; basal section of M_{1+2} suberect, about two-thirds as long as the second section; M_{3+4} very short, with *m-cu* at its fork; cell *2nd A* moderately wide.

Abdominal tergites brownish black, obscure brownish yellow sublaterally; sternites obscure brownish yellow, the individual segments narrowly blackened basally; on segments seven and eight the segments more uniformly blackened to form a more or less distinct subterminal ring; hypopygium yellow.

Holotype, ♂, Río Chacaito, Estado Miranda, July 16, 1939 (Vivas-Berthier).

The nearest ally of the present fly is *Tipula (Microtipula) petiolaris* Alexander, of Ecuador, which differs especially in the coloration of the body and wings, and in the details of venation and trichiation of the cells of the wings. In this latter species vein *M* and the broad adjoining portions of cells *R* and *M* are yellow, the second dark brown area in each of cells *Sc* and Cu_1 not interconnected across these basal cells.

Limonia (Dicranomyia) diversigladia piabilis subsp. n.

The typical form is known only from Perú (Yanamonte, Ayacucho, altitude 3,000 - 4,100 meters). The present fly differs especially in slight details of structure of the male hypopygium. Ninth tergite with the emargination shallower and broader, the lateral lobes correspondingly shorter. Ventral dististyle with the outer rostral spine placed even closer to the apex of the prolongation; inner spine a little less flattened. Gonapophyses with the mesal apical lobes longer and more slender.

Holotype, ♂, Páramo La Negra, Estado Mérida, August 1943 (Anduze).

Limonia (Geranomyia) vindicta Alexander.

1943. *Limonia (Geranomyia) vindicta* Alexander; Bol. Ent. Venezolana, 2: 21 - 22.

The unique type, a male, was form the Rio Chacaito, Estado Miranda, altitude 980 meters, September 18, 1938 (Vivas-Berthier). The male hypopygium was described in the original reference but no figure was supplied at that time. This organ is shown herewith (Fig. 5).

Hexatoma (Eriocera) candidipes (Alexander).

1923. *Penthoptera candidipes* Alexander; Ent. News, 34: 20.

The unique type, a female, was from Táchira, Estado Táchira, April 9, 1920 (Williamson and Ditzler). A male, agreeing very closely with the type is now available: Caño del Tigre, Estado Mérida, September 1943 (Anduze). The darkened dorsopleural thoracic stripe found in the type is here poorly defined to virtually lacking.

Teucholabis (Teucholabis) nocturna Alexander.

1941. *Teucholabis (Teucholabis) nocturna* Alexander; Journ. N. Y. Ent. Soc., 49: 143 - 144.

The unique type, a male, was from San Esteban, Estado Carabobo, collected in December 1939, by Anduze. One female, San Diego, (Dto. Tovar), Estado Mérida, August 1943 (Anduze).

Teucholabis (Teucholabis) unicingulata sp. n.

General coloration black, including the entire body excepting the posterior portion of the pronotum, the humeral region of praescutum, and a broad stripe on the thoracic pleura; antennae black; knobs of halteres pale yellow; femora obscure yellow, the tips very narrowly and vaguely darkened; wings grayish yellow with a single narrow brown crossband at cord; *Sc* relatively long, Sc_1 ending about opposite midlength of the long *Rs*; cell *1st* M_2 closed; male hypopygium

with the outer lobe of basistyle a long straight rod, its apex bent at a right angle into a spine; inner margin of this rod fringed with long yellow setae; outer dististyle bispinous; inner dististype unusually narrow.

Male. — Length about 6 mm.; wing 5.2 mm.

Rostrum black, elongate, only a little shorter than the remainder of head; palpi black. Antennae brownish throughout; flagellar segments elongate-oval, the outer segments shorter; flagellar segments clothed with a dense white pubescence. Head black.

Thoracic notum black, the surface of the praescutum subnitidous; pronotal scutellum and pretergal region obscure testaceous yellow; humeral region of praescutum slightly more reddish. Pleura black, with an unusually broad, diffuse, pale longitudinal stripe that is silvery gray pruinose, this area involving fully one-half the total area of the pleura. Halteres dusky, the knobs pale yellow. Legs with the fore coxae black, the remaining coxae testaceous yellow; trochanters yellow; femora obscure yellow, the tips narrowly and very vaguely darkened; tibiae and basitarsi obscure yellow, the tips even more narrowly but abruptly brown; outer tarsal segments dark brown; posterior basitarsi swollen on proximal fourth. Wings (Fig. 3) with the ground color grayish yellow, the prearcular and costal fields more yellowish, best evidenced by the yelow veins which elsewhere are pale brown; stigma oval, dark brown; a narrow but conspicuous paler brown stripe along the cord to vein *Cu,* slightly widened behind, its average width about equal to the length of the stigma. Venation: *Sc* relatively long, Sc_1 endig about opposite midlength of the long, nearly straight *Rs,* Sc_1 alone more than twice *r-m*; R_2 about twice R_{2+3+4}; cell *1st* M_2 elongate, longer than vein M_3 beyond it, widened outwardly; *m-cu* about one-third to one-fourth its length beyond the fork of *M.*

Abdomen, including hypopygium, black. Sternal pockets of segment five (male) moderately developed, the setae stout, each terminating in a long hairlike point. Male hypopygium (Fig. 6) with the outer lobe of basistyle, *b,* a long straight rod that narrows gradually, near its tip bent at a right angle

into a slender spine; mesal edge of rod fringed with very long pale setae; mesal lobe of basistyle a low blackened flange, its margin coarsely toothed and provided with a few long setae. Outer dististyle, *od,* a broadly flattened blade, at near two-thirds the length narrowed into a slender rod, its tip an acute spine; on inner edge of blade at point of narrowing with an erect acute spine; surface of style with numerous setae. Inner dististyle, *id,* with the outer blade unusually long and narrow, especially the acute outer portion. Aedeagus, *a,* with the apex slender.

Holotype, ♂, San Diego (Dto. Tovar) Estado Mérida, August 1943 (Anduze).

Teucholabis (Teucholabis) unicingulata is very different from all other regional species. In wing and leg pattern it is most similar to species such as *T. (T.) scabrosa* Alexander, of Ecuador, but differs in all regards of body coloration and structure of the male hypopygium.

Teucholabis (Teucholabis) cockerellae Alexander.

1915. *Teucholabis cockerellae* Alexander; Proc. U. S. Nat. Mus., 48: 442, pl. 24, fig. 2 (wing).

This unusually handsome *Teucholabis* had been known only from Middle America, as follows:

Mexico. — El Vergel, Chiapas, altitude 800 metres, June 7, 1935 (A. M. Dampf); Dampf M. F. Nº 4.469.

Guatemala. — Quirigua (W. P. Cockerell); type.

Costa Rica. — Coastal region of northern section, January 1 - March 15, 1921 (Axel Olsson); no further data.

One male, Zea, Estado Mérida, August 1943 (Anduze).

This is one of the very few species of this great genus where the modified sternal pockets on abdominal segments five and six of the male sex are lacking or so little modifed as to be recognizable as such.

Teucholabis (Teucholabis) jocosa Alexander.

1913. *Teucholabis jocosa* Alexander; Ent. News, 26: 440 - 441, pl. 16, fig. 3 (wing).

Widely distributed over South America. The following records from Venezuela are available: El Valle, D. F., January 28, 1939; July 28, 1939 (Vivas-Berthier). Río Chacaíto, Estado Miranda, September 18, 1938 (Vivas-Berthier). San Diego, Estado Mérida, August 1943 (Anduze).

Gonomyia (Progonomyia) paramoensis sp. n.

Allied to *hyperplatys*; size large (wing, male, 7.8 mm.); mesonotal praescutum gray with three conspicuous dark stripes; antennae black, the base of first flagellar segment pale; thoracic pleura conspicuously patterned with yellow and black; knobs of halteres brownish black; legs black; wings whitish subhyaline, restrictedly but conspicuously patterned with blackish gray; *Sc* relatively short, Sc_2 opposite origin of *Rs*; male hypopygium with the apex of basistyle terminating in two blackened lobes, one obtuse, the other acute at tip; inner dististyle long and slender.

Male. — Length about 6.5 mm.; wing 7.8 mm.

Rostrum black; palpi black. Antennae black; pedicel brown; base of first flagelar segment abruptly white, including more than the proximal third of segment; flagellar segments subcylindrical to elongate-conical, the outer ones more attenuated; basal flagellar segment constricted before midlength. Head gray, narrowly paler surrounding the antennal fossae.

Pronotum yellow above, narrowly infuscated on sides. Mesonotal praescutum with the ground color gray, with three conspicuous stripes, the black central one long, the somewhat duller laterals broad and short, much restricting the interspaces; humeral region light yellow; lateral praescutal border behind the reddish pseudosutural foveae broadly more whitish yellow; scutum dark brown, sparsely pruinose, the central area more heavily so; scutellum reddish brown, more pruinose on sides; mediotergite blackened medially,

the sides of cephalic half yellow; pleurotergite dark gray with an obscure yellow longitudinal line across its dorsal portion. Pleura yellow, conspicuously patterned with darker, including a black dorsal stripe, beginning narrowly on the ventral edge of pronotum, widened behind, ending at the cephalic border of the pteropleurite; ventral sternopleurite and meron similarly blackened but more pruinose; lower yellow ground stripe narrowest in front, above the fore coxae, much wider behind, especially on the mesepimeron, dorsal meron and metapleura; dorsopleural region yellow. Halteres with stem yellow, knob brownish black. Legs with the coxae blackened, sparsely pruinose, their tips more reddened; remainder of legs black, the femoral bases a trifle paler. Wings (Fig. 4) whitish subhyaline, restrictedly but very conspicuously patterned with blackish gray, including the stigma and areas at arculus, origin of *Rs*, cord, outer fork of *M*, and as individual scattered spots near outer end of cell M_4, two in cell *1st A*, the more posterior one near vein *2nd A* and conspicuous; an axillary spot in cell *2nd A* at near midlength; veins dark brown, paler on basal fourth of wing. Venation: *Sc* short, Sc_1 ending about opposite one-fourth the length of *Rs*, Sc_2 opposite origin of latter; *Rs* square or very short-spurred at origin; R_2 at or close to fork of R_{3+4}; *m-cu* about one-fourth its length before the fork of *M*.

Abdominal tergites dark brown; sternites brown, narrowly darker sublaterally, the extreme lateral borders yellow; pleural membrane yellow; male hypopygium chiefly blackened, the caudal border of the ninth segment yellow. Male hypopygium (Fig. 7) with the apex of basistyle, *b*, terminating in two blackened lobes, a stout more curved one with its tip obtuse and a larger, more erect lobe that terminates in an acute point. Three dististyles; the outer, *od*, broad on basal two-thirds, thence strongly narrowed, the broadly obtuse apex with a small linear notch that cuts off a small thumb-like portion; at point of narrowing of style with an acute marginal spine; basal half of style with abundant, long, conspicous setae. Intermediate style a nearly straight to gently curved rod that very gradually narrows to an acute black spine. Inner style, *id*, a long slender dusky lobe, its base dilat-

ed into an obtuse blackened flange. Phallosomic plate, *p*, somewhat as in *hyperplatys* but evidently narrower (badly flexed in the slide of the unique type specimen); lateral arms obtuse with two very long outer setae. Caudal margin of what appears to represent the ninth sternite with a conspicuous median digitiform lobe.

Holotype, ♂, Páramo La Negra, Estado Mérida, August 1943 (Anduze).

The most similar form among the now numerous described species of the subgenus is *Gonomyia (Progonomyia) hyperplatys* Alexander, from Ecuador. This differs in its smaller size, body coloration, much paler and relatively inconspicuous wing-pattern, and the details of structure of the male hypopygium, especially of the ninth sternite, apex of basistyle, the inner dististyle and the phallasomic plate.

Gnophomyia (Gnophomyia) vivas-berthieri sp. n.

Belongs to the *luctuosa* group; general coloration, including body, antennae, halteres and legs, black; wings with a strong dusky suffusion, more intensely so at base and in the costal portion; macrotrichia of outer wing cells restricted to series in cells R_5, *2nd* M_2 and M_3; male hypopygium with the basistyle at apex produced into a slender lobe; both dististyles subterminal, the outer a broad-based chitinized horn; inner dististyle dilated on basal portion and here provided with several strong setae that are directed caudad.

Male. — Length about 6 mm.; wing 5.8 mm.; antenna about 1.3 mm.

Rostrum and palpi black. Antennae of moderate length, black throughout; basal flagellar segments oval, the outer ones more elongate; verticils at midlength of organ subequal in length to the segment bearing them. Head black.

Pronotum, mesonotum and pleura uniformly black. Halteres short, black throughout. Legs uniformly black. Wings with a strong dusky suffusion, the base and costal region even darker; stigma long-oval, darker brown; veins brown. Macrotrichia of cells unusually sparse and restricted, ocurring as central groups in slightly more than the distal half of cells

R_5 and *2nd* M_2, and for most of the length of cell M_3; veins beyond cord with conspicuous trichia, basad of cord with these lacking or virtually so, except for the usual series on *R* and with eight or nine trichia on basal two-thirds of *Rs*. Venation: R_{2+3+4} short, subequal to the basal section of R_5; R_2 at or close to fork of R_{3+4}; *Rs* gently arcuated, longer than R_5; cell *1st* M_2 about equal in length to vein M_4 beyond it; *m-cu* about one-third its length beyond the fork of *M*.

Abdomen, including hypopygium, black. Male hypopygium (Fig. 8) with the basistyle, *b*, apically produced into a slender lobe that is globrous except for a row of six or seven strong setae along the lower margin and a single strong seta at base of outer face. Dististyles subterminal in position, the outer a broad-based chitinized horn; inner style, *id*, with the basal portion dilated, the mesal section provided with several strong setae that are directed caudad; outer or apical portion of style produced into a glabrous rod.

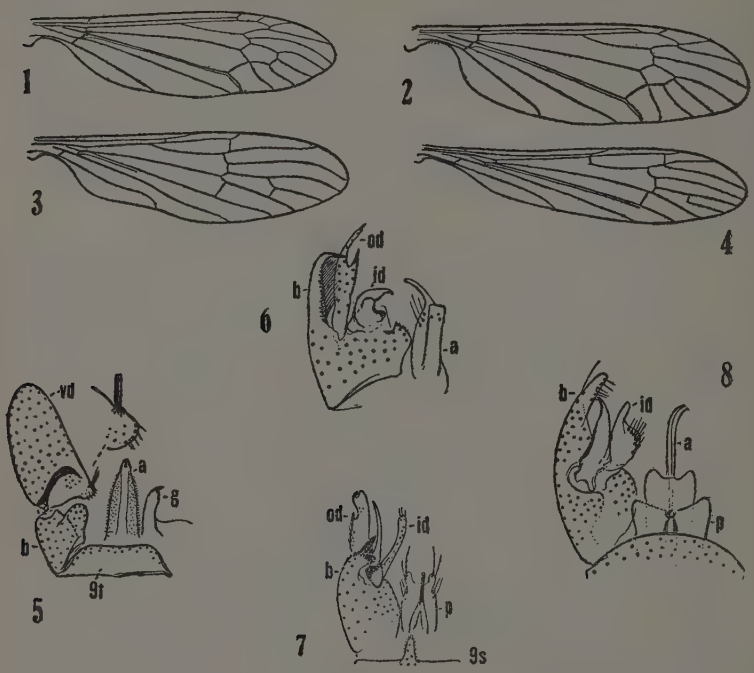
Holotype, ♂, El Valle, environs of Caracas, July 6, 1939 (Vivas-Berthier).

I am very pleased to name this distinct fly in honor of the collector, Mr. Gaston Vivas-Berthier, who has added materially to our knowledge of the Tipulidae of Venezuela. From other regional black-bodied species of the *luctuosa* group of *Gnophomyia*, including *Gnophomyia (Gnophomyia) funebris* Alexander, of Brazil; *G. (G.) funerea* Alexander, of Brazil; *G. (G.) melancholica* Alexander, of Paraguay; and *G. (G.) pammelas* Alexander, of Paraguay, the present species differs in the small size, great reduction in number and method of distribution of the macrotrichia of the wing cells, and in the structure of the male hypopygium, especially of the dististyles.

Erioptera (Mesocyphona) caloptera Say, var.

1823. *Erioptera caloptera* Say; Journ. Acad. Nat. Sci. Philadelphia, 3: 17.

The species is widely distributed throughout both North and South America. Two females, Zea, Estado Mérida, August 1943 (Anduze).



EXPLANATION OF FIGURES

Fig. 1. *Ozodicera (Dihexaclonus) longisector* sp. n.; venation.

Fig. 2. *Pselliophora venezuelensis* sp. n.; venation.

Fig. 3. *Teucholabis (Teucholabis) unicingulata* sp. n.; venation.

Fig. 4. *Gonomyia (Progonomyia) paramoensis* sp. n.; venation.

Fig. 5. *Limonia (Geranomyia) vindicta* Alexander; male hypopygium.

Fig. 6. *Teucholabis (Teucholabis) unicingulata* sp. n.; male hypopygium.

Fig. 7. *Gonomyia (Progonomyia) paramoensis* sp. n.; male hypopygium.

Fig. 8. *Gnophomyia (Gnophomyia) vivas-berthieri* sp. n.; male hypopygium.

(Symbols: *a*, aedeagus; *b*, basistyle; *g*, gonapophysis; *id*, inner dististyle; *od*, outer dististyle; *p*, phallosome; *t*, tergite; *vd*, ventral dististyle).

CONTRIBUCION AL ESTUDIO DE LA PARASITOLOGIA ANIMAL EN VENEZUELA

XV. Acarina de los animales domésticos y salvajes

E. V. Vogelsang,

Servicio de Haras y Remonta, Ejército Nacional.
Maracay, Estado Aragua, Venezuela.

—

Esta es la primera lista de ácaros observados en mamíferos y aves domésticas y salvajes de Venezuela. El material ha sido obtenido en distintas partes del país.

DEMODICIDAE

Demodex canis Leydig 1895.

Muy frecuente en los caninos del país; aparece con suma frecuencia en los criaderos de caninos donde los padres aparentemente se hallan libres de esa acariasis, lo que demuestra que la etiología de la acariasis canina es aún muy confusa.

Hallé un caso de parasitismo por este ácaro en un equino del Ejército Nacional en Caracas. En muchas de las preparaciones he encontrado algunos ejemplares, que no he podido diferenciar morfológicamente con el Demodex.

SARCOPTIDAE

Cytoleichus nudus (Vizzioli, 1868).

Estos ácaros endoparásitos, viven en el tejido conectivo subcutáneo y sacos aéreos de las aves domésticas especialmente en gallinas. No se habían observado lesiones producidas por este ácaro hasta que se publicara el trabajo de M. Seyfahrt que demostró lo contrario. Hallé este ácaro en gallinas de Maracay, Estado Aragua, Valle de La Pascua Estado Guárico, y San Félix, Estado Bolívar.

Laminosioptes cysticola (Viz.)

Estos ácaros viven en el tejido conectivo subcutáneo de aves domésticas, casi siempre se hallan muertos y calcificados en formas calcáreas alargadas y lisas que se encuentran diseminadas en el tejido conectivo subcutáneo. Especialmente se les encuentra en el cuello, lugar de preferencia de estos ácaros. Ha sido encontrado en varios lugares de Venezuela.

Notoedres cati (Hering).

Hemos encontrado a este ácaro varias veces como causante de la sarna costrosa de los felinos domésticos en la Clínica de la Escuela de Veterinaria de Caracas.

Notoedres cuniculi (Gerlach 1857).

Es frecuente encontrarlo parasitando las regiones nasal y labial de los conejos de Venezuela.

Sarcoptes equi Gerlach 1857.

Se inicia esta sarna en la altura de la cruz de los equinos, de allí se extiende rápidamente por todo el cuerpo. Es una verdadera plaga de la cría caballar por su fácil contagiosidad produciendo caquexia y muerte rápida en los atacados. Hemos observado (Fig. 1) varios casos en Valle de la Pascua (Estado Guárico) y en Uracoa (Estado Monagas) especialmente después de las lluvias.

Sarcoptes scabei

Lo hemos observado en el Zorro (Cercodocyon thous thous). En los meses de sequía desde diciembre hasta abril, es fácil encontrar en los Llanos de Venezuela, gran cantidad de zorros flacos que se acercan a las casas de habitación donde con facilidad son eliminados. Todos esos zorros que la población considera como hidrófobos (lo que nada tiene que ver con la rabia. como lo hemos estudiado varias veces por los cortes del Cuerno de Ammon, Dr. J. de Armas y Vogelsang) son en realidad el resultado de una gran invasión de cestodos de Dyphillobotrium y Nematodos (Ancylostomidae) y asociado a éstos el cuerpo recubierto por una gruesa capa de sarna producida por el *Sarcoptes scabei* que aún no he podido determinar si es la especie *vulpis* de Fürstenberg.

Sarcoptes scabei var *hydrochoeri* Mégn.

En varios chigüires (Hydrochoerus capybara) del Jardín Zoológico de Maracay, observé una extensa dermatosis parasitaria producida por este ácaro que causó la muerte de todos los animales atacados.

Sarcoptes canis Gerlach 1857.

Estos ácaros son difíciles de encontrar. Se localizan de preferencia en la cabeza, en el borde de las orejas de los caninos. Esta sarna se puede diseminar por todo el cuarpo. La observé varias veces en la Clínica de la Escuela de Veterinaria en Caracas.

Sarcoptes suis Raillet.

Se localiza primeramente alrededor de las orejas y ojos de los suinos (Sus scrofa) y luego se extiende por todo el cuerpo. Encontré sarnas producidos por estos ácaros en Onoto (Estado Guárico) y en Maracay (Estado Aragua) donde causó verdaderos estragos en las crías.

Cnemidocoptes mutans (Robin & Linquetier 1859)

Produce la sarna de las patas de las gallinas y en Venezuela se la conoce con el nombre vulgar de patas de cal.

Psoroptes equi (Hering 1838).

Es la sarna de equinos más frecuente en Venezuela. Se alojan los parásitos sobre todo en las partes del cuerpo donde hay pelos largos, crines, cola, etc. y se extiende rápidamente por todo el cuerpo formando gruesas costras. A veces esta sarna ataca la cabeza produciendo extensas depilaciones (Fig. 2, 3, 4). He observado varios casos de otocariasis rebelde en equinos producida por este Psoroptes. Entre los equinos de Valle de la Pascua y Uracoa hallamos esta sarna en forma epizoótica después de lluvias e inundaciones.

Psoroptes cuniculi Delafond 1859.

Produce la sarna auricular comunmente encontrada entre los conejos del país.

DERMANYSSIDAE

Dermanyssus gallinae (Redi 1674).

Es el ácaro que más frecuentemente ataca las aves domésticas de Venezuela y en tales cantidades que constituyé un verdadero azote. También hemos observado el ataque al hombre por este parásito de aves por ejemplo el de un trabajador del Jardín Zoológico de Maracay.

Humanos parasitados por ácaros de animales

Son muchas las observaciones que se han hecho sobre la trasmisión de ácaros de animales domésticos y salvajes al hombre y Delafond y Bourguignon citan una extensa literatura. Nuestras observaciones, fuera de la antedicha, tratan de dos personas que autopsiaron zorros que tenían sarna. Sintieron intenso prurito (Fig. 5) con ligeras pápulas donde se encontraron Sarcoptes. Uno de los infectados curó después de un tratamiento con Odylon. El otro duró varios días con el prurito y las pápulas que al fin desaparecieron con simples lavados de agua y jabón.

LISTA DE ACAROS PARASITOS Y SUS HUESPEDES OBSERVADOS EN VENEZUELA

EQUINO *(Equus caballus)*.

Psoroptes equi (Hering, 1858).

Sarcoptes equi Gerlach, 1857.

Demodex follic, var. *canis.*

CANINO (*Canis fam.*)

Demodex canis.

Sarcoptes canis Gerlach, 1857.

Otodectes cynotys var. *canis* (Hering).

FELINO *(Felis catus dom).*

Notoedres cati (Hering).

SUINO *(Sus scrofa).*

Sarcoptes suis Raillet.

ZORRO *(Cercodocyon thous thous).*

Sarcoptes scabei var.

CHIGÜIRE *(Hydrochoerus capybara).*

Sarcoptes scabei var. *hydrochoeri* Mégn.

GALLINA *(Gallus gallus dom.)*

Cnemidocoptes mutans Robin et Linquetier, 1859.

Cytoleichus nudus (Viz. 1868).

Laminosioptes cysticola (Viz.)

Dermanyssus gallinae.

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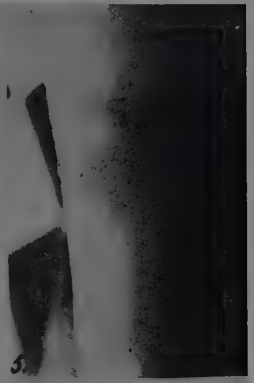

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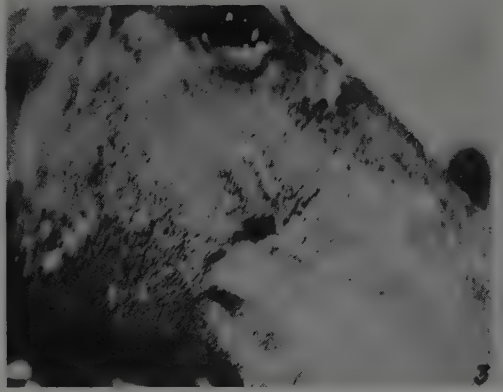

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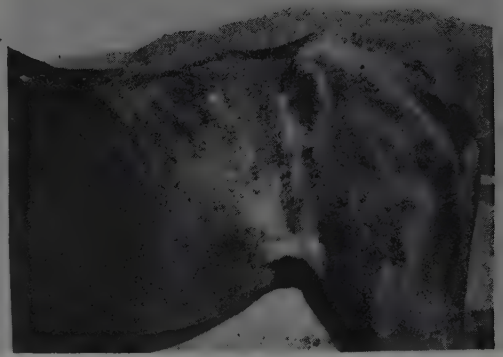

DOCUMENTS POUR SERVIR A L'ETUDE DES SPHINGIDAE DU VENEZUELA (Lépid. Hétér.)

(4e. Note)

par

René Lichy,

5 Parque Sanabria,
Caracas.

SUR UNE ♀ INCONNUE D'UN SPHINGIDE TRES RARE DU VENEZUELA

Pholus adamsi *R. & J.* ♀

—

Les deux seules références détaillées que j'aie pu obtenir sur *P. adamsi* sont, tout d'abord la description originale du ♂ de ROTHSCHILD & JORDAN, dans leur célèbre "Revision of the Sphingidae" (1903) [1], puis celle de DRAUDT (♂ ?) (*in* SEITZ, 1931), qui probablement s'applique au ♂. Je suppose donc, avec certaine raison, que la ♀ est encore inconnue, ce qui m'encourage à la décrire très succinctement:

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(1) Le ♂ décrit par ces auteurs provenait du Vénézuéla, mais de quelle région? ils ne le disent pas.

♀: Longueur d'aile antérieure: 41 mm.

Elle n'est pas différente de la figure du ♂-type, de ROTHSCHILD & JORDAN (Pl. II), mais mon unique exemplaire étant d'une fraîcheur absolue, présente un coloris beaucoup plus vif, notamment en ce qui concerne la bordure rose intense des ailes inférieures. La ligne médiane oblique des ailes antérieures est éclaircie, du côté postérieur, par une nuance brune très pâle. L'abdomen est largement nuancé de brun rougeâtre, et le dessous du thorax est pourvu de fins poils roses; les côtés des palpes sont rouge carmin; une ligne blanche souligne inférieurement les yeux et la base des palpes. Le reste s'accorde avec la description de R. & J.

La figure du SEITZ (Pl. 98 C d) présente un coloris rouge très vif sur les ailes postérieures que je n'ai pas observé sur les deux spécimens que je connais — l'intensité de ce rouge n'est-elle pas exagérée? Les ailes antérieures de cette même figure ont une nuance foncière brun jaune qui s'écarte également de la couleur des ailes antérieures des exemplaires connus de moi, qui est brun lilas.

Cette espèce est extraordinairement rare au Vénézuéla. Elle ne semble pas non plus avoir été trouvée ailleurs. Ma collection ne possède qu'une ♀, de grande pureté, qui m'a généreusement été donné par Mlle. Jeanne TALAINE, que je tiens ici à remercier vivement pour ce splendide spécimen. Il provient de Los Chorros, à environ 10 Km. à l'est de Caracas, dans l'Etat Miranda (900 m. d'altitude), et il fut pris à la lumière électrique, le 5 septembre 1935.

M. GRISOL, enthousiaste entomologiste français, ayant vécu fort longtemps au Vénézuéla, avait également pris un exemplaire aux lampes électriques (♀ ?), tout près de la ville de Maracay, à Los Castaños (Est. Aragua, 450 m. alt.), en août 1938. J'ai su aussi que des religieux allemands résidant à "El Limón", hacienda de bétail et de cultures de canne à sucre, non loin de Maracay, avaient envoyé *P. adamsi* en Allemagne. J' ignore cependant combien de spécimens avaient été pris par ces derniers.

Dans aucune autre collection, j'ai pu voir cette belle espèce, exclusivement vénézuélienne. C'est dire combien elle est rare.

Il est intéressant de noter ici la grande similitude du paysage de Los Chorros et des environs de Maracay —c'est-à-dire des deux lieux où ont été trouvés, à ma connaissance, les quelques rares échantillons de *P. adamsi*. Cette ressemblance m'a frappé dès mon premier voyage à Maracay, et surtout lors d'une excursion à Los Castaños[2]. J'ai vu ici, comme à Los Chorros, les mêmes collines herbues, arides, semées des mêmes petites fleurs des champs sur lesquelles voltigeaient les mêmes *Terias proterpia,* les mêmes *Euptoieta hegesia,* et tant d'autres espèces communes aux deux lieux précités. Quelques vallons boisés, de peu d'importance — minces filets d'eau coulant entre deux étroits rideaux d'arbres — coupent, çà et là, la monotonie des mamelons de Los Chorros comme de Los Castaños.

Par l'effet d'une analogie remarquable, it faut donc admettre qu'un même paysage engendre les mêmes êtres.

P. adamsi ne semble fréquenter que les lieux peu boisés — c'est du moins ce qui découle du peu que nos savons sur cette espèce. A l'appui de cette hypothèse, je puis également ajouter qu'aucune de mes très nombreuses excursions et chasses nocturnes, en toute saison, dans les forêts primaires des environs de Maracay, c'est-à-dire assez proches de Los Castaños et de El Limon, ne m'a encore permis d'y trouver *P. adamsi.*

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(2) Voici du reste ce que je relève sur mes notes de chasses de l'époque (juillet 1937): "...sur les flancs alors très dénudés des mêmes collines (de Los Castaños), là où le soleil frappe durement de ses rayons la maigre végétation d'où jaillissent des lantanas, des heliotropes, des mimosas-sensitives, et d'autres fleurs humbles, sur ces pentes, dans un site qui ressemble absolument aux environs ensoleillés de Los Chorros (Est. Miranda, près de Caracas): collines pelées, creux boisés, j'y retrouve exactement les mêmes espèces typiques, tout ce que je prenais en abondance à Los Chorros: *Pieris monuste, Terias daïra, T. proterpia, Meganostoma cesonia,* une *Euptychia alcinoë* (trouvée avant, seulement à Los Chorros), *Euptoieta hegesia, Precis lavinia, Anartia amathea, A. jatrophae,* et des *Eudamus, dorantes, simplicius, eurycles,* enfin d'autres Hespérides, noires, jaunes (de cinq à six espèces, d'après mes observations). Les lieux et les papillons, ici, s'apparentent aux lieux et aux papillons de Los Chorros".

UN SPHINGIDE NOUVEAU POUR LE VENEZUELA

Pholus triangulum *R. & J.*

—

Pholus triangulum ne semble pas avoir été trouvé auparavant au Vénézuéla. Il n'était connu jusqu'alors que du Mexique, du Pérou et de Bolivie. C'est une espèce andine qui s'est propagée vers l'est, jusqu'à la Cordillère de la Côte vénézuélienne.

Ma collection possède 4 ♂ ♂ et 4 ♀ ♀ du Vénézuéla.

L'un des ♂ ♂, qui m'a été donné par mon bon collaborateur Teotiste Palencia, provient des forêts vierges de la Cordillère du Littoral, au sud de Borburata (Est. Carabobo), à 675 m. d'altitude (octobre ou novembre 1939). Je dois un autre ♂ à l'obligeance de Santiago Ramírez, qui l'a capturé au massif du Naiguatá (D. F.), à 720 m. d'altitude.

Un ♂ et 3 ♀ ♀, tous frais, furent chassés par moi, à la lumière, dans les forêts primaires de la Cordillère du Littoral, entre Maracay et Choroni, à une altitude de 1.600 m. (4 mai 1940, 6 et 8 mars, 28 septembre 1943), puis une quatrième ♀, également très pure, le 25 juin 1941, dans les forêts de la vallée du rio Borburata (675 m. d'alt.), d'où provient le premier ♂, et enfin un autre ♂, bien conservé, à Rancho Grande (Estado Aragua, 1.100 m. d'alt.), le 10 mai 1943.

L'espèce semble vivre toute l'année.

Je ne puis rien dire sur les moeurs de *P. triangulum*, qui est encore rare au Vénézuéla. Les deux ♂ ♂ que j'ai capturés sont venus à la lumière à 19 h. 45 et à 2 h., et les quatre ♀ ♀ entre 21 h. et 3 h.

Je n'ai trouvé aucune différence, en comparant mes ♂ ♂ avec la photo du "type-♂" du Mexique, de ROTHSCHILD & JORDAN[1]. L'espèce n'a donc pas formé de race locale au Vénézuela.

Description très sommaire des exemplaires vénézuéliens:

♂: longueur d'aile antérieure, de la racine à l'apex: 62½-63½ mm.; envergure: 126 mm. (chez l'exemplaire de 62½ mm.); spiritrompe: 57 mm.

♀: longueur d'aile antérieure, de la racine à l'apex: 67-71½ mm.; envergure: 141½ mm. (chez un exemplaire de 68½ mm.); spiritrompe: 54 mm.

Les dessins du ♂ et de la ♀ sont identiques, et aucune différence chromatique n'est à noter. J'ajouterai ceci à la description originale de ROTHSCHILD & JORDAN, du "type" mexicain: les intervalles entre les grandes taches brun olive sombre des ailes antérieures, sont fortement saupoudrés de mauve clair (19) [2]; un semis de même tonalité borde la marge externe des ailes postérieures. Chez les exemplaires très frais, la base et le disque des ailes postérieures, sont blanc vert pâle (269), mais cette nuance tourne au blanc plus pur chez les vieux spécimens. Sur la tête, sur le thorax et les ptérygodes, ainsi que sur les segments abdominaux, existe également un saupoudré blanc mauve (20), qui n'est plus apparent sur les vieux papillons.

La séparation spécifique de cette espèce n'offre aucune difficulté, même à l'examen superficiel, si l'on veut bien observer la tache subapicale triangulaire — d'où le nom de l'espèce — qui va jusqu'à la nervure 6, alors que chez les autres espèces similaires, *satellitia* L. et *anchemolus* Cr., elle s'arrête à la nervure 7.

Pour les ouvrages consultés, *cf.* les études précédentes sur les SPHINGIDAE.

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(1) *cf.* "Revision of the Sphingidae", 1903, Pl. LXVI, fig. 2.

(2) Les chiffres entre parenthèses correspondent aux Nº du "Code Universel des Couleurs" de E. SEGUY, (Paris, 1936).

A PROPOS DE L'ARTICLE PRÉCÉDENT: SUR LE DIMORPHISME SAISONNIER CHEZ DEUX *Terias*

(Vol. II, Nº 4, 31-XII-43)

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Jusqu'à ce que toutes les formes de *Terias daïra* soient mieux étudiées, il est, je crois, préférable de s'en tenir provisoirement aux noms sous lesquels mon article est écrit — ceci pour ne pas compliquer la systématique déjà trop embrouillée chez les *Terias*, d'une part, et d'autre part sachant combien cette espèce varie individuellement. Une révision totale de toutes les formes géographiques, de toutes les variétés et aberrations. est souhaitable, étant donné que l'espèce engendre des races locales, lesquelles se présentent, pour chacune d'elles, sous deux formes saisonnières — avec les inévitables formes de transitions — sur toute l'étendue de son immense territoire d'expansion.

Pour le moment, je ne dispose pas de matériaux suffisants pour entreprendre un tel travail d'ensemble.

R. L.